Final

Range Environmental Assessment

Test Areas C-87 and D-51
Eglin Air Force Base, Florida

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FINDING OF NO SIGNIFICANT IMPACT
TEST AREAS C-87 AND D-51
RANGE ENVIRONMENTAL ASSESSMENT
EGLIN AIR FORCE BASE, FLORIDA

Pursuant to the Council on Environmental Quality regulation for implementing the procedural provisions of the National Environmental Policy Act (NEPA), Title 40 of the Code of Federal Regulations (CFR) §§ 1500–1508; U.S. Air Force (Air Force) Environmental Impact Analysis Process (EIAP) regulations 32 CFR § 989; U.S Navy (Navy) implementing NEPA regulations 32 CFR § 775; and Department of Defense Directive 6050.1, the Air Force and Navy have prepared a range environmental assessment (REA) to identify and assess the potential impacts on the natural and human environment associated with conducting military training operations at Test Areas (TAs) C-87 and D-51, Eglin Air Force Base (AFB), Florida (REA Figures 1-2, page 1-4).

Purpose and Need (REA § 1.2, pages 1-1 to 1-2): TAs C-87 and D-51 are the primary sites used by the Naval School Explosive Ordnance Disposal (NAVSCOLEOD) to conduct basic explosive ordnance disposal (EOD) training and advanced improvised explosive device (IED) training. The school's mission is to train officers and enlisted members of the Navy, Marine Corps, Army, and Air Force as well as certain DoD civilian and international military personnel on the most current EOD/IED practices. The last NEPA analyses of TAs C-87 and D-51 operations were conducted in 2002 and 2008 and since that time numerous changes have occurred. Some of these changes include the types of training operations to be conducted, new environmental regulations in place, and increased expansion of residential communities near installation boundaries. Under the Proposed Action, the Navy would implement a new level of training activity at the NAVSCOLEOD School to meet their current and projected plans. By updating the environmental analysis, it will allow quick and efficient processing of future and/or high priority requests if these actions are determined to be similar in scope and magnitude as analyzed within this REA.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Alternative 1 - No Action Alternative (REA § 1.2, pages 2-1 to 2-6): The NAVSCOLEOD has a current workforce of more than 500 active duty, civilian, and contract personnel. TA D-51 (REA Figure 2-1, page 2-4) is primarily used to conduct basic EOD training and includes the headquarters, applied instruction facilities, practical training areas, and training support/maintenance facilities. Current explosives training at TA D-51 involves up to 25 detonations per day of 1.5 pounds (lbs) Net Explosive Weight (NEW) using Composition 4 (C-4) explosive and 25 detonations of smaller charges (0.7 lb NEW) for 50 weeks per year. In Fiscal Year (FY) 2014 approximately 1,580 students received basic EOD training. This training lasts six months for non-Navy students and nine months for Navy students, who receive an additional three months of underwater ordnance training not located at TA D-51. New classes start every three days and each class consists of 25 students. A total of 420 NAVSCOLEOD staff currently provide classroom/practical training or medical and administrative support. TA C-87 (REA Figure 2-2, page 2-5) is primarily used to conduct advanced IED training after completion of basic EOD training. Its assets include the Advanced IED Training Facility along with nine associated practical training sites. Current explosives training involve detonations of 0.15 to 2.5 lbs NEW using C-4 or Detonation Cord. Up to 24 detonations per day are conducted for 30 weeks per year. Detonations of up to 35 lbs NEW (maximum) using C-4 are conducted approximately 15 times per year (1 detonation per class). Approximately 360 students received advanced IED training in FY 2014. A total of 15 classes are held each year, with class size of 24 students. Fifteen NAVSCOLEOD staff support this training. Training activities under the No Action Alternative would be maintained at FY 2014 levels. This would also include any facility/infrastructure construction that occurred during FY 2014. Table 2-1 on pages 2-2 to 2-3 of the REA provides a list of existing NAVSCOLEOD facilities and training areas located at TAs C-87 and D-51.

Alternative 2 (REA § 2.2.2, pages 2-6 to 2-10): This alternative includes any operations/infrastructure construction expected to occur between FY 2015 to FY 2020 (REA Figure 2-3, page 2-8). Foreseeable future construction at TA D-51 would include nine new weapons of mass destruction (WMD) practical training sites; a new steel shop/sign engraving and bus/vehicle/equipment dispatch building; an auditorium; a new physical training (PT) field with field house and renovations to the existing material storage area or boneyard. For TA C-87, foreseeable future construction would include four new advanced IED practical training sites; a new perimeter security fence and a new tactical post blast course (REA Figure 2-3, page 2-8). The annual student population who receive basic EOD training at TA D-51 is expected to decrease from the current baseline of 1,580 students to 1,422 students in FY 2015, 1,272 students in FY 2016, and remain at 1,272 students through FY 2020 (REA Table 2-2, page 2-9). Class size would remain at 25 students; however, new classes

would start every four days instead of every three beginning in FY 2015. The total number of NAVSCOLEOD staff is expected to decrease from 420 personnel to 360 personnel beginning in FY 2015, and remain at 360 personnel through FY 2020. Foreseeable future explosives training would continue to involve up to 25 detonations per day of 1.5 lbs NEW using C-4 in the demolition range for 50 weeks per year. Smaller detonations (average NEW of 0.07 lb) would be relocated to the new WMD training area once operational and would continue to be 25 detonations per day for 50 weeks per year. The annual student population who receive advanced IED training on TA C-87 is not expected to change over the foreseeable future. A total of 15 classes would continue to be provided per year, with each class continuing to consist of 24 students and lasting 15 days. The total number of NAVSCOLEOD staff is expected to remain at the current baseline of 15 personnel through FY 2020. Foreseeable future explosives training would continue to involve up to 24 detonations/ day of 0.15 to 2.5 lbs NEW using C-4 or Detonation Cord for 30 weeks per year; however, some of the detonations would be conducted at the four new advanced IED practical training sites and six new post-blast practical training sites once operational. Detonations of up to 35 lbs NEW (maximum) using C-4 would continue to be conducted on practical Training Site H for up to 15 detonations per year (1 detonation per class).

Alternative 3 - Preferred Alternative (REA § 2.2.2, pages 2-10 to 2-12): Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed in Alternative 2 as well as mission surges in TA D-51 training due to wartime or other significant military involvement. A mission surge is defined as 100 percent increase in training activities. For students, this equates an increase from 1,580 students per year to 3,160 per year (approximately 50 students per class instead of 25). NAVSCOLEOD staff would increase by 25 percent; from 420 personnel to 504. The number of 1.5 lbs NEW detonations using C-4 at the Demolition Range would increase from 25 detonations per day to 50 detonations per day for 50 weeks per year and the number of 0.07 NEW detonations conducted in the TMD and IED Training Areas would increase from 25 detonations per day to 50 detonations per day for 50 weeks per year. Advanced IED training at TA C-87 is not expected to increase during a mission surge; therefore, TA C-87 training under Alternative 3 would remain at the current baseline level (FY 2014) as described in Alternative 1.

ENVIRONMENTAL CONSEQUENCES

Environmental analyses focused on the following areas: Air Quality, Noise, Soils, Water Resources, Biological Resource, Cultural Resources, Safety, Land Use, Hazardous Material/Waste/Solid Waste, Utilities, and Environmental Justice/ Protection of Children. Because TAs C-87 and D-51 are located on the Eglin reservation within restricted airspace reserved for military operations, there would be no impacts to private/commercial aircraft since they cannot enter the airspace without permission from Eglin AFB. The Proposed Action does not involve any intrusive activity that would affect subsurface geological formations or change the topography of the area. Projected personnel training levels would remain at or below their current levels through FY2020; therefore, the Proposed Action would have no impact to the transportation system or affect the local economy (REA § 1.4.1, page 1-6). Overall, environmental analyses did not identify any significant impacts to any of the analyzed resources. In addition, no significant cumulative impacts caused by implementation of the Proposed Action when combined with other past, present, and reasonably foreseeable actions occurring at Eglin AFB were identified (REA § 3.12, pages 3-38 to 3-40).

Air Quality (REA § 3.1, pages 3-1 to 3-6): Walton County where TAs C-87 and D-51 are located is currently classified as being "in attainment" for all criteria air pollutants; therefore, conformity determination is not required. Current and projected NAVSCOLEOD operations have the potential to degrade air quality from emissions (water, carbon dioxide (CO_2), nitrogen gas, carbon monoxide, and lesser amounts of other materials) released during explosives training primarily from C-4 denotations. As indicated in REA Tables 3-2, 3-3, and 3-4, all estimated maximum annual TA C-87 and TA D-51 combined explosives training emissions of criteria pollutants, except for lead, for each alternative is less than 0.01 percent of the respective total annual Walton County emissions. The estimated maximum annual emission for lead is 11.4 percent. This is 10 percent below the applicable Air Quality Region, which includes 3 counties in Alabama, 10 counties in Florida, and 37 counties in Mississippi. Foreseeable future infrastructure construction associated with Alternatives 2 and 3 would generate fugitive dust and construction equipment exhaust emissions but again these levels are less than 1 percent of the respective total annual Walton County emissions. Greenhouse gas emissions released from the Proposed Action do not approach the level of 25,000 metric tons CO_2 equivalent, which is U.S. EPA's established

threshold level for greenhouse gas emissions. Based on this analysis, none of the alternatives would have a significant impact on Air Quality.

Noise (REA § 3.2, pages 3-6 to 3-13) - Each alternative has the potential to generate high noise levels during explosives training. Under Alternative 1, noise levels at TA C-87 would be contained within Eglin AFB; therefore, the Proposed Action is not expected to result in adverse noise annoyance on the public (REA Figure 3-1, page 3-9). The nearest residential communities located near TA D-51 are Choctaw Beach, approximately 2 miles to the south, and Niceville, approximately 2.3 miles to the southwest. The 2008 TA D-51 EA predicted a detonation of 1.5 lbs NEW of C-4 on the Demolition Range would have the greatest potential single-event noise impact on the public. The U.S. Occupational Safety and Health Administration (OSHA) has identified 140 peak sound pressure level (dBP) to be the maximum recommended unprotected exposure level necessary to prevent damage to the human ear drum and noise levels between 115 – 130 dBP have been shown to cause a medium risk in public annoyance/noise complaints (U.S. Army, 2007). Under favorable weather conditions, the 140 and 115 dBP would be contained within the Eglin reservation boundary (REA Figure 3-2, page 3-11). During unfavorable weather conditions (i.e. high winds and temperature inversions), only the 115 dBP has the potential to extend into the nearest residential communities. As standard practice, NAVSCOLEOD will coordinate with Eglin's Weather Office prior to explosives training to determine if weather conditions are favorable. This measure along with the typical tendency for noise levels to be directed northward during unfavorable weather conditions in the area minimizes the potential for adverse noise annoyance impacts on the public. Foreseeable future explosives training under Alternatives 2 and 3 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the proposed new trainings sites/areas. Because the new sites are adjacent to the existing ones for both TA C-87 and TA D-51 (REA Figure 2-4, page 2-11), the potential noise impacts associated with explosives training are the same as discussed under Alternative 1. Foreseeable future infrastructure construction on TAs C-87 and D-51 would temporarily increase ambient noise levels in and around the construction sites, which would cease upon completion. As standard practice, Eglin AFB would limit construction to normal working hours. Based on this, impacts to noise from Alternatives 1, 2 and 3 are minor and would not cause a significant impact to the public.

Soils (REA § 3.3, pages 3-13 to 3-15) – The majority of soils at TAs C-87 and D-51 are excessively drained and sandy. None of the proposed activities would produce blast fragmentation. Detonations at TA C-87 are conducted on paved surfaces and the majority of detonations on TA D-51 are conducted inside thick wooden structures located within blast-pits. Soils within these areas would not be physically disturbed. The D-51 Demolition Range is an unpaved surface. Demolitions at this site would result in temporary, minor soil disturbance. Because of this, NAVSCOLEOD personnel regularly level and compact the surface. During C-4 denotations, research department explosive (RDX) is deposited on soils; however, soil impacts are minimal since RDX undergoes biodegradation disappearing within 5 weeks. The projected decrease in annual student population who receive basic EOD training on TA D-51 under Alternative 2 would not result in a discernible difference in potential physical/erosion when compared to Alternative 1. The foreseeable future explosives training under Alternative 2 involve the same number and type of detonations as described in Alternative 1, and therefore, no impacts. Mission-surge explosive training activities described under Alternative 3 would involve a 100 percent increase in the number of Alternative 1 detonations of 1.5 lbs and 0.07 lb NEW; however, the associated increase in personnel foot traffic, training events and use of miscellaneous equipment would result in a negligible increase in overall soil disturbance. The release of RDX into the soils would increase, but as discussed under Alternative 1, RDX would still be largely confined within the boundary of the test areas and not expected to have significantly adverse impact on soils. The only major change between Alternative 1, 2, and 3 is the training locations; a portion of the detonations would be conducted at the proposed new trainings sites, which are adjacent to the existing sites. Overall, detonation-related soil impacts for Alternatives 2 and 3 would be the same as Alternative 1. Soils within the construction footprints of the buildings, practical training sites, and other infrastructure proposed under Alternative 2 would be disturbed due to excavation and in some cases application of pavement/concrete. These activities would be coordinated with the 96 CEG/CEIEA and appropriate best management practices (BMPs) and erosion/sedimentation controls would be implemented. Based upon this analysis none of the alternatives would have a significant impact to soils.

Water Resources (REA § 3.4, pages 3-15 to 3-21): There are several streams, associated wetland areas and a portion of a pond located just inside the northern, southern, and eastern boundaries of TA C-87. The 100-year floodplain exists just

inside its northern boundary (REA Figure 3-3, page 3-17). There are no surface water bodies, wetland areas and/or floodplains located on TA D-51. The nearest ones are located outside the northern, eastern, and western boundaries (REA Figure 3-4, page 3-18). NAVSCOLEOD operations under Alternative 1 have the potential to impact water resources primarily from explosives training. These activities are conducted only in designated upland and paved areas within TA C-87; therefore, impacts to water quality from soil erosion are minimal. Impacts to water resources from RDX deposition are low because the compound undergoes rapid photo-degradation. Alternative 2 would involve the same number and type of detonations as described for Alternative 1; the only change would be conducting demolitions at the new training sites. Future infrastructure construction on TAs C-87 and D-51 is estimated to create approximately 3.8 acres and 7.5 acres of impervious area, or a combined total of approximately 11.3 acres. Florida Department of Environmental Protection (FDEP) requires an environmental restoration permit (ERP) when activities create 4,000 ft^2 (0.09 acre) or more of impervious area. No compensatory mitigation would be required; however, the Navy will be required to comply with FDEP regulations regarding post-condition stormwater runoff discharge rates because of an increase in impervious area. The types of new stormwater management systems and/or modifications made to the existing system(s) will be determined during the design and permitting phases of the projects. In addition to the ERP, the Navy will be required to obtain a FDEP National Pollutant Discharge Elimination System stormwater construction permit and implement an associated stormwater pollution prevention plan (SWPPP) for construction projects under Alternative 2 since more than one acre of land is disturbed. Construction activities will be coordinated with the 96 CEG/CEIEA and appropriate BMPs and erosion/sedimentation controls would be implemented during the construction phase to minimize potential indirect impacts on nearby wetlands and surface waters. Impacts from Alternative 3 are similar to Alternatives 1 and 2. While Alternative 3 would involve a 100 percent increase in the number of detonations conducted, impacts to water resources from RDX deposition would still be low.

Biological Resources (REA § 3.5, pages 3-21 to 3-29): Most of the area within TA C-87 is undeveloped grass and shrub land, which provide good habitat for wildlife. Wetland/riparian communities exist in the northern, southern, and eastern parts of TA C-87 and small patches of flatwoods exist in the northern and southern parts. The area within TA D-51 is classified as a disturbed community since vegetation is regularly cut, burned or cleared. Common wildlife species include white-tailed deer, cottontail rabbit, gray fox, various rodents, opossum, northern bobwhite, great-horned owl, various songbirds, eastern diamondback rattlesnake, etc. Common wildlife species within the wetland and aquatic communities include raccoon, American beaver, American alligator, various frogs, wading birds, and freshwater fish. While the Eglin Integrated Natural Resources Management Plan identified no federally listed threatened and endangered species occurring there in 2012, habitat is conducive for the eastern indigo snake, gopher tortoise, and several state-listed species on TA C-87. The red cockaded woodpecker (RCW) could also potentially forage on TA C-87 as there is one active RCW cavity tree in the general vicinity of the test area, approximately 0.5 mile west of the nearest practical training site. There is potential breeding habitat for the reticulated flatwoods salamander, approximately 0.35 mile west of the nearest practical training site. There are no streams designated as Okaloosa darter streams in the vicinity of TA C-87. Sensitive species potentially occurring on TA D-51 include the eastern indigo snake, gopher tortoise, and state-listed species utilizing upland habitats. There are no active RCW cavity trees or breeding habitat for the reticulated flatwoods salamander. There is one Okaloosa darter stream, approximately 500 feet from the northern boundary of the test area. High quality natural communities exist just within the northern and western boundaries of TA C-87 but do not extend within the existing practical training sites. There are no significant botanical sites or outstanding natural areas within the vicinity of TA C-87 or TA D-51. All three alternatives would have minimal impact to biological resources from explosive training since these activities are only conducted within designated test areas. The Proposed Action would have a low potential to start fire since vegetation and other potentially flammable debris are regularly removed to minimize potential wildfire starts. In addition, NAVSCOLEOD conducts training in accordance with the fire danger ratings and other wildfire minimization measures identified in Eglin AFB Instruction 13-212, *Range Planning and Operations*. Approximately 20.2 acres of habitat loss would occur with construction at both test areas. Because this habitat is the most common type found on Eglin AFB, the impact is relatively minor. The Florida Fish and Wildlife Conservation Commission had no comment on the information contained within the REA (REA, Appendix B). Impacts to biological resources from Alternatives 1, 2 and 3 would not be significant.

Cultural Resources (REA § 3.6, pages 3-29 to 3-31): There are several archaeological sites located near TA C-87 and one site adjacent to one of the proposed practical training areas. Because of the potential for the Proposed Action to impact

cultural recourses, the Air Force consulted with the Florida Historic Preservation Office (SHPO) (REA, Appendix B). The demolition of Buildings 8852 and 8853 in TA D-51 were previously reviewed by the FL SHPO in 2013, who determined these structures along with Building 8851 were ineligible for listing in the *National Register of Historic Places*. If prehistoric or historic artifacts are encountered at any time under the Proposed Action, all activities shall ceases immediately and NAVSCOLEOD personnel shall contact the Eglin Cultural Resource Manager. The FL SHPO concurred with the Air Force that the Proposed Action on TA D-51 "will have no adverse effect on historic or archaeological properties"; however, FL SHPO had insufficient information to determine if the site located near TA C-87 is eligible for the National Register. Based on this, if any of the proposed development and associated activities should impact this cultural site, further consultation with the FL SHPO will be required. This consultation requirement would apply to any building or structures 50 years old or older within the project area identified for alteration and/or demolition. Based on this, the Air Force will not alter or demolish any building or structure 50 years old or older as part of the proposed activities addressed in the REA. The Air Force also consulted with the following five federally recognized Native American Tribes: the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Poarch Band of Creek Indians of Alabama, Muscogee (Creek) Nation of Oklahoma, and Thlopthlocco Tribal Town of the Creek (Muscogee) Nation of Oklahoma. As indicated in a March 16, 2015 Memorandum for Record (REA, Appendix B), none of the Tribes dispute the Air Force determination that there are no properties of cultural or religious significance within the project area or which would likely be affected by the Proposed Action. Based on this analysis, there would be no significant impacts to cultural resources from any of the alternatives.

Safety (REA § 3.7, pages 3-31 to 3-33): TAs C-87 and D-51 are currently closed to the public at all times under Alternative 1 and would continue to be under Alternatives 2 and 3; therefore, training activities do not jeopardize the health and safety of members of the public. Vehicular access to TA C-87 is controlled by an existing gate at the intersection of Range Road 213 and Range Road 503 and restricted signage is posted on surrounding unpaved roads/trails. Vehicular access to TA D- 51 is controlled by security gates manned during operational hours on Range Road 218 at the northwestern and northeastern ends of the test area. There is also a gate on Range Road 459 and security fence running the perimeter of the test area. Training operations on TAs C-87 and D-51 are conducted in coordination with the NAVSCOLEOD Explosives Safety Officer and Eglin Range Safety Office, and in strict compliance with all safety procedures specified in AFI 13-212, *Range Planning and Operations*, EAFBI 13-212, *Range Planning and Operations*, and other applicable range operation regulations and guidance documents. Each of the explosives training sites/areas on TAs C-87 and D-51 have an established Explosive Safety Quantity Distance (ESQD) arc, which is based on blast overpressure potential and other explosives safety considerations for each site/area. The respective ESQD arcs are all contained within the boundaries of the test areas under Alternative 1. All training personnel are required to strictly adhere to the safety regulations that have been established for the ESQD arcs. Although the nature and extent of explosives training operations conducted on TAs C-87 and D-51 pose an inherent safety risk to military personnel, the potential for adverse health and safety impacts on military personnel is minimized by the range and explosives safety procedures that have been established. ESQD arcs would be established for all the new explosives practical training sites proposed to be constructed and non-explosives training infrastructure would not be constructed these new ESQD arcs. Under Alternative 2, a proposed new perimeter security fence would encompass the existing and proposed new practical training sites and, therefore, have a positive effect on safety. Based on this, there would be no significant impacts to safety from any of the alternatives. Impacts from Alternative 3 would be the same as the previous alternatives; therefore, there are no significant impacts to safety from the Proposed Action.

Land Use (REA § 3.8, pages 3-36 to 3-37): TA C-87 is largely undeveloped with developed areas consisting of the Advanced IED Training Facility, nine associated practical training sites, and an interconnecting road network. Undeveloped land on TA D-51 exists primarily in the eastern and southern parts of the test area with developed land primarily areas associated with the training buildings, practical explosives and non-explosives training areas, various training support and maintenance facilities, storage structures/areas, and roads. TAs C-87 and D-51 are classified as areas used for expending ordnance that does not produce duds. Public access is restricted. The interstitial areas surrounding the test areas are used for tactical training and outdoor recreation by the public, when public access is determined to not interfere with military operations. The Proposed Action does not change the land use classification within or outside the test areas. There are no significant impacts to land use from the Proposed Action.

Hazardous Materials/Waste (REA § 3.9, pages 3-34 to 3-36): Small amounts of hazardous materials/wastes (explosives, petroleum products, paint, etc.) are generated during testing and maintenance activities at TAs C-87 and D-51 under Alternative 1. Building 8856A on TA D-51 is used as the HAZMAT Storage Facility. NAVSCOLEOD personnel managed the facility in accordance with all applicable environmental compliance regulations and coordinated with the 96 CEG/CEIEC. No aboveground/underground storage tanks or any environmental restoration program sites are within the immediate vicinity of either test area. The projected decrease in the annual student population who receive basic EOD training under Alternative 2 would not result in a discernible difference in the quantities of hazardous materials/wastes managed or solid waste generated. During the construction phase, nonhazardous, construction-related solid waste such as construction debris, rubble, and stripped vegetation would be generated and disposed of at an off-base landfill while some of the debris would be recycled/reused on Eglin AFB, as appropriate. None of the buildings to be demolished contain asbestos or lead-based paint. Although the quantities of explosives would increase under Alternative 3, there would be no change in the types of explosives used or the manner in which they are managed. The increase in students and training activity would result in a negligible increase in the amount of solid waste that would be generated. Overall, there would be no effect on hazardous materials/wastes or solid waste from the Proposed Action.

Utilities (REA § 3.10, page 3-36 to 3-37): Electrical service is provided to the test areas by overhead lines from the Choctawhatchee Electric Cooperative. The stormwater system consists of aboveground drainage ditches and underground storm sewer lines. One well provides both potable water and fire suppression at TA C-87. At TA D-51, water comes from two wells and a 150,000-gallon aboveground water storage tank. The wastewater system on TA C-87 consists of one septic tank and associated leach field. There are nine septic tanks and associated leach fields on TA D-51. Under Alternative 1, the potable water and wastewater utility systems on TA D-51 are being upgraded, which includes abandoning the existing wells, aboveground storage tank, and septic systems, and connecting the test area to the Okaloosa County water and wastewater utility lines. The existing utility systems on TAs C-87 and D-51 are able to support current NAVSCOLEOD operations at both test areas and these upgrades will improve the water distribution system. The projected decrease in the annual student population who receive basic EOD training on TA D-51 under Alternative 2 would result in a negligible decrease in electricity and water consumption and wastewater generation. While the mission surge in TA D-51 training activities would increase the number of students under Alternative 3, this increase is still within the limits of the utility systems. Based on this, there would be no significant impacts to utilities from any of the alternatives.

Environmental Justice/Protection of Children (REA § 3.11, pages 3-37 to 3-38): In 2013 the population of Walton County was estimated to be 59,404; children under the age of 5 were 5.5 percent of the population, minorities were 16.7 percent, and persons below the poverty level were 17.9 percent (U.S. Census Bureau, 2015). The nearest residential community to TA D-51 is located in Choctaw Beach, approximately 2 miles to the south of the test area and the nearest residential community to TA C-87 is located in Mossy Head, located approximately 3.2 miles to the northeast of the test area. All three alternatives would have minimal to no effect on surrounding populations since the test sites are within restricted areas of Eglin reservation and secured against unauthorized entry.

Permits, Mitigation and Management Actions (REA § 4.0, pages 4-1 to 4-2): Environmental analyses of the Proposed Action did not identify any significant impacts; therefore, mitigations are not required. If required, NAVSCOLEOD will obtain all necessary water and stormwater construction permits (ERP, NPDES, etc.) needed for any future construction activities on TAs C-87 and D-51 and will abide by the conditions of the issued permits. In addition, all personnel on TAs C-87 and D-51 are required to implement the following management actions:

- Training operations will only be conducted in areas designated/authorized areas. Vehicles will be driven on existing roads and/or on areas specifically authorized for off-road use. No vehicles will be driven in wetlands, streams, or ponds and stream crossings will occur at designated locations.
- NAVSCOLEOD personnel will adhere to all restrictions identified in EAFBI 13-212, *Range Planning and Operations*, pertaining to sensitive species, as well as AFI 13-212, *Range Planning and Operations* and EAFBI 13-212, *Range Planning and Operations*

- NAVSCOLEOD personnel will coordinate with Eglin's Weather Office to identify times of favorable weather conditions and conduct EOD detonations under these conditions to the extent practicable to minimize noise impacts on the public and sensitive species
- Hazardous materials/wastes will be managed in coordination with the 96 CEG/CEIEC and all other applicable environmental compliance regulations
- NAVSCOLEOD personnel will remove training-related debris from the test areas on a predetermined schedule in accordance with Air Force regulations. No heavy equipment will be used to remove debris from wetlands or surface water bodies. Digging or other intentional ground disturbing activity is prohibited anywhere without prior authorization from the 96 CEG/CEIEA
- Listed species surveys must be conducted by the 96 CEG/CEIEA at and in the vicinity of all proposed construction sites on Eglin AFB prior to any construction activity
- All SHPO consultation requirements identified within their letter dated October 21, 2014 will be followed. The 96CEG/CEIA will determine the necessary measures to be implemented to avoid impacts to the nearest archaeological sites during construction on TA C-87. In the event cultural materials are inadvertently discovered during training operations or construction, NAVSCOLEOD personnel will cease all activities and contact the 96 CEG/CEIEA

PUBLIC REVIEW AND INTERAGENCY COORDINATION

A public notice placed in the *Northwest Florida Daily News* of Fort Walton Beach, Florida and *Bay Beacon* of Niceville, Florida announced the 30-day public review period. The draft REA and draft FONSI were made available for public review on the Eglin AFB public website. The Florida State Clearinghouse coordinated state and local review of the draft REA and draft FONSI and determination of federal consistency with the Florida Coastal Management Program. One comment was received and addressed within the final REA (REA Appendix C)

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and analysis summarized above and contained within the attached REA, I find the proposed decision to conduct military testing/training operations on TAs C-87 and D-51 as described within Alternatives 1, 2, or 3 will not have a significant impact on the natural or human environment; therefore, any of these alternatives may be considered for implementation and an environmental impact statement is not required.. This analysis fulfills the requirements of NEPA, the President's Council on Environmental Quality 40 C.F.R. §§ 1500 – 1508, the U.S. Air Force EIAP regulations 32 CFR § 989 and the U.S. Navy NEPA regulations 32 CFR § 775.

16 NOV 2015

RONALD J. ONDERKO, P.E.
Command Senior Civil Engineer
Logistics, Civil Engineering and Force Protection

Date

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Acronyms and Abbreviations

7 SFG	7th Special Forces Group
9 SOS	9th Special Operations Squadron
96 CEG	96th Civil Engineer Group
96 CEG/CEIEA	96th Civil Engineer Group/Environmental Planning Office
96 CEG/CEIEA	96th Civil Engineer Group/Natural Resources Office
96 CEG/CEIEC	96th Civil Engineer Group/Compliance
96 TW	96th Test Wing
ACM	asbestos-containing material
ADP	Area Development Plan
AIEDD	Advanced Improvised Explosive Device Disposal
AFB	Air Force Base
AFMAN	Air Force Manual
AFI	Air Force Instruction
AFMC	Air Force Materiel Command
AFSOC	Air Force Special Operations Command
ALARNG	Alabama Army National Guard
AT/FP	Anti-Terrorism/Force Protection
AvFID	Aviation Foreign Internal Defense
BMP	best management practice
BRAC	Base Realignment and Closure
C-4	Composition 4 explosive
CAA	Clean Air Act
CATEX	Categorical Exclusion
CDNL	C-weighted day-night average sound level
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHELCO	Choctawhatchee Electric Cooperative
CO	carbon monoxide
CO_2	carbon dioxide
CO_{2e}	carbon dioxide equivalent
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
dBC	C-weighted decibel
dBP	peak sound pressure level
DDESB	Department of Defense Explosives Safety Board.
Detcord	Detonation Cord
DNL	day-night average sound level
DoD	Department of Defense
EA	Environmental Assessment
EAFBI	Eglin Air Force Base Instruction
ECTRC	Emerald Coast Technology and Research Center
EGTTR	Eglin Gulf Test and Training Range
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordnance Disposal
ERP	Environmental Resource Permit

ERP	Environmental Restoration Program
ESA	Endangered Species Act
EHS	Extremely Hazardous Substance
ESQD	Explosive Safety Quantity Distance
ETTC	Eglin Test and Training Complex
F.A.C.	Florida Administrative Code
FCMP	Florida Coastal Management Program
FDEP	Florida Department of Environmental Protection
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FNAI	Florida Natural Areas Inventory
ft	feet
ft^2	square feet
FWC	Florida Fish and Wildlife Conservation Commission
FY	Fiscal Year
GHG	greenhouse gas
HAP	hazardous air pollutant
Hwy	Highway
Hz	hertz
ICRMP	Integrated Cultural Resources Management Plan
IED	Improvised Explosive Device
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resources Management Plan
JSF	Joint Strike Fighter
lb	pound
LBP	lead-based paint
MHPI	Military Housing Privatization Initiative
mi^2	square miles
MILCON	Military Construction
MMRP	Military Munitions Response Program
MRTFB	Major Range Test Facilities Base
msl	mean sea level
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAPS	Noise Assessment and Prediction System
NAVSCOLEOD	Naval School Explosive Ordnance Disposal
NEI	National Emissions Inventory
NEPA	National Environmental Policy Act
NEW	Net Explosive Weight
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
ONA	Outstanding Natural Area

OPNAVINST	Chief of Naval Operations Instruction
OSHA	Occupational Safety and Health Administration
PM	particulate matter
PT	physical training
RCW	red-cockaded woodpecker
RDX	Research Department Explosive
REA	Range Environmental Assessment
ROD	Record of Decision
ROI	Region of Influence
RSL	Regional Screening Level
SBS	Significant Botanical Site
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Plan
TA	Test Area
TMD	Tools and Methods Division
TNT	trinitrotoluene
UAS	Unmanned Aerial System
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UXO	unexploded ordnance
WMD	Weapons of Mass Destruction

SECTION 1

Purpose of and Need for the Proposed Action

1.1 Introduction

Eglin Air Force Base (AFB), located in northwestern Florida, is home of the Eglin Test and Training Complex (ETTC) and is one of ten Air Force Materiel Command (AFMC) host bases. As a critical part of the Major Range Test Facilities Base (MRTFB), Eglin AFB's primary functions are to support research, development, testing, and evaluation of conventional weapons and electronic systems and to support multi-service air and ground training of operational units.

Naval School Explosive Ordnance Disposal (NAVSCOLEOD) is a Navy-managed associate tenant command at Eglin AFB. NAVSCOLEOD is the sole source for basic Explosive Ordnance Disposal (EOD) training for all Department of Defense (DoD) agencies. The mission of NAVSCOLEOD is to train officers and enlisted members of the U.S. Navy, Marine Corps, Army, and Air Force, and certain DoD civilian and international military personnel on the most current procedures for the location, identification, render safe, recovery, technical evaluation, and disposal of surface and underwater ordnance. Test Areas (TAs) D-51 and C-87 on Eglin AFB are the primary sites used by NAVSCOLEOD to conduct basic EOD training and advanced Improvised Explosive Device (IED) training, respectively.

The Navy proposes to authorize and implement a new level of activity for NAVSCOLEOD operations on TAs C-87 and D-51 at Eglin AFB, and in coordination with the Air Force, has prepared this Range Environmental Assessment (REA) for this Proposed Action. This REA analyzes the potential environmental impacts of current TA C-87 and TA D-51 operations, foreseeable future operations and infrastructure construction, and a mission surge in operations expected to occur during wartime or other significant military involvement. This REA has been prepared in accordance with the National Environmental Policy Act ([NEPA], Title 42, U.S. Code, Section 4321 et seq.), Air Force and Navy implementing regulations (32 Code of Federal Regulations [CFR] Part 989 and Part 775, respectively), and DoD directives.

1.2 Purpose and Need

The purpose of the Proposed Action is to allow quick and efficient processing of NAVSCOLEOD mission operations, including associated infrastructure construction, on TAs C-87 and D-51 at Eglin AFB. The Proposed Action is needed to update the approval process for current and foreseeable future NAVSCOLEOD use of TAs C-87 and D-51, and to provide a quick response to priority needs of NAVSCOLEOD during war or other significant military involvement.

The potential environmental impacts of NAVSCOLEOD operations on TA C-87 were last analyzed in the 2002 *Environmental Assessment for Construction of a New U.S. Navy Explosive Ordnance Disposal School and Storage Facility, Eglin Air Force Base, Florida* (U.S. Air Force, 2002), herein referred to as the 2002 TA C-87 Environmental Assessment (EA). The potential environmental impacts of NAVSCOLEOD operations on TA D-51 were last analyzed in the 2008 *Final Environmental Assessment for Navy Explosive Ordnance Disposal School Master Development Plan for Test Area D-51* (U.S. Navy, 2008), herein referred to as the 2008 TA D-51 EA. Since preparation of these NEPA documents, changes have occurred that warrant updated environmental impact analysis of NAVSCOLEOD operations on TAs C-87 and D-51, including the following:

- NAVSCOLEOD operations have changed and new facilities have been constructed on TAs C-87 and D-51.
- Additional new facilities are proposed to be constructed in the foreseeable future on TAs C-87 and D-51; an Area Development Plan for these test areas was prepared in 2012.
- The federal and/or state protection statuses of certain plant and animal species have changed.
- New regulations have been imposed on Eglin regarding the management of protected species.
- Additional cultural resources have been discovered on Eglin AFB.
- The populations of residential communities near Eglin AFB have increased.
- Federal, State, and Air Force regulations have changed.

Currently, when approval of a new mission action at Eglin AFB is requested, it may be categorically excluded from detailed environmental analysis if it is similar to a mission that has been previously assessed and if that assessment

resulted in a Finding of No Significant Impact (FONSI). This Categorical Exclusion (CATEX) process is in accordance with NEPA and associated DoD, and Air Force regulations. By updating the environmental impact analysis for TAs C-87 and D-51 to address mission and other changes that have occurred since the last analysis, this REA will allow more streamlined and accurate environmental review/approval of NAVSCOLEOD mission requests. Future new TA C-87 and TA D-51 operations may be categorically excluded from detailed environmental analyses if they are determined to be similar in scope and impact potential to those analyzed in this REA. By tiering the environmental analyses for such similar operations off this REA, the Navy would save both time and money and would be able to respond more quickly and efficiently to high priority or crisis mission requests. Discussion of the need for the specific infrastructure construction projects under the Proposed Action is provided in Section 2.

1.3 Location of the Proposed Action

The Eglin Military Complex encompasses approximately 724 square miles (mi^2) of land in the Florida panhandle and consists of the Eglin Reservation in Santa Rosa, Okaloosa, and Walton counties, and property on Santa Rosa Island and Cape San Blas (**Figure 1-1**). Eglin AFB includes land assets, cantonment areas, and the ETTC. The ETTC is composed of the following five components:

- Test areas/sites
- Interstitial areas (areas beyond and between the test areas)
- Eglin Gulf Test and Training Range (EGTTR)
- Airspace (over land and water)
- Estuarine and riverine areas

TA C-87, also known as the C-87 Advanced Improvised Explosive Device Disposal (AIEDD) training complex, encompasses approximately 1,250 acres of land in the northeastern part of the Eglin Reservation in Walton County, Florida (**Figure 1-2**). TA C-87 is bordered on all sides by ETTC interstitial areas that are used for tactical training and for outdoor recreation by the public, when public access is determined to not interfere with military operations. Nearby land uses include TAs C-61 and C-61A to the southwest, TA C-5 to the southeast, State Road 285 to the north and west, and Range Road 213 to the south and east.

TA D-51 encompasses approximately 736 acres of land in the southeastern part of the Eglin Reservation in Walton County, Florida (see **Figure 1-2**). TA D-51 is bordered on all sides by ETTC interstitial areas that are used for tactical training and for outdoor recreation by the public, when public access is determined to not interfere with military operations. Nearby land uses include the TA C-52 Complex to the northeast and Range Road 218, which runs through TA D-51 along its northern boundary.

1.4 Applicable Regulatory Requirements

Regulations relevant to NEPA and the resources assessed in this REA include, but are not limited to, the following:

- Title 40, CFR, Parts 1500-1508
- Title 42, U.S. Code, Sections 4321-4370f
- Title 32 CFR Part 989, *Environmental Impact Analysis Process*
- Executive Order (EO) 11988, *Floodplain Management*, May 24, 1977
- EO 11990, *Protection of Wetlands*, May 24, 1977
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, February 11, 1994
- EO 13175, *Consultation and Coordination With Indian Tribal Governments*, November 6, 2000
- DoD Instruction 4715.9, *Environmental Planning and Analysis*, May 3, 1996
- Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, March 12, 2003
- AFI 32-7064, *Integrated Natural Resources Management*, September 17, 2004
- AFI 32-7065, *Cultural Resources Management Program*, June 1, 2004
- AFI 13-212, *Range Planning and Operations*, November 16, 2007
- Chief of Naval Operations Instruction (OPNAVINST) 5090.1C, *Environmental Readiness Program Manual*

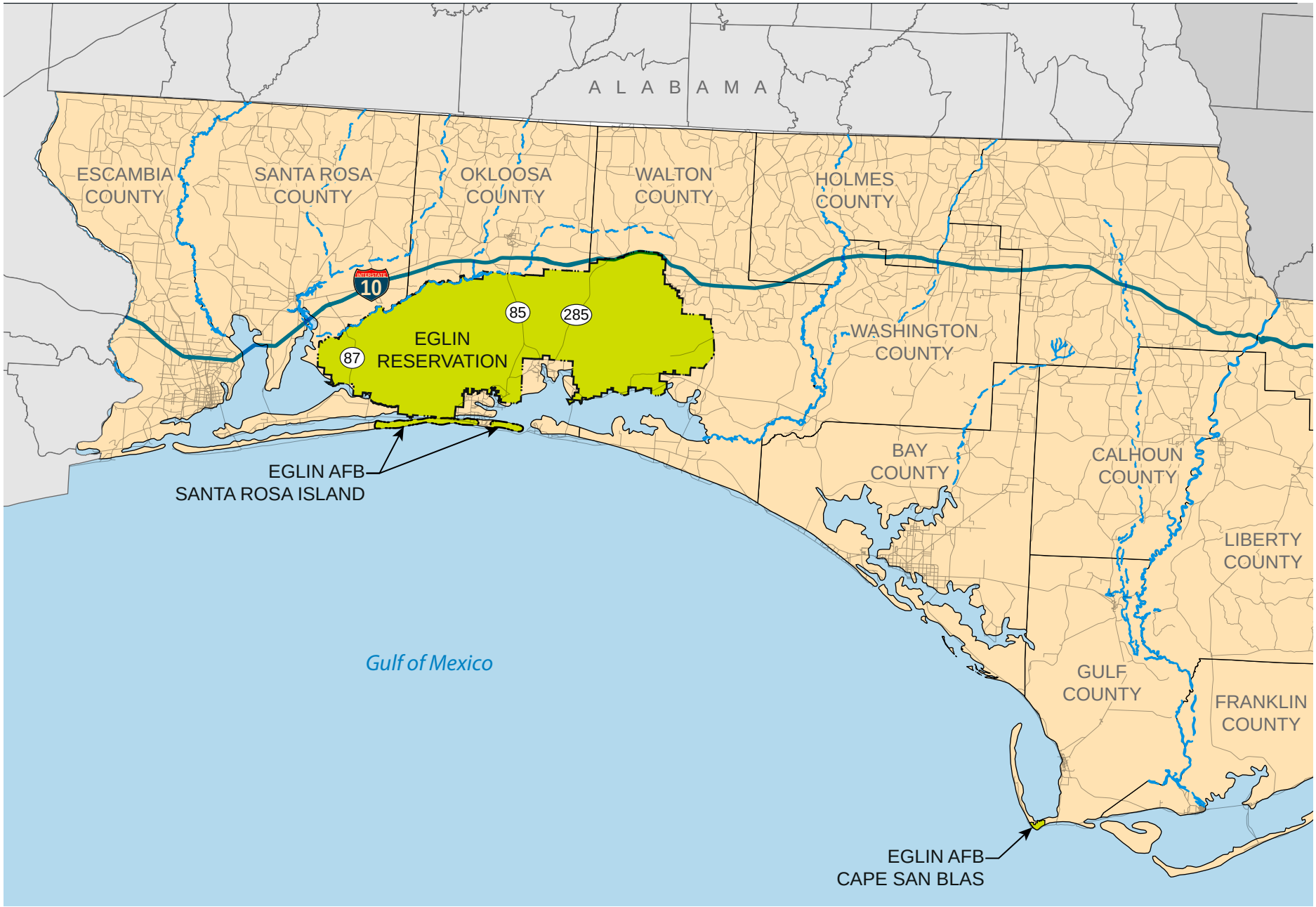


FIGURE 1-1
Eglin Vicinity Map
Test Areas C-87 and D-51 REA

ES092713002216TPA F1-1 Test Areas C-87 and D-51 REA_rev3.ai

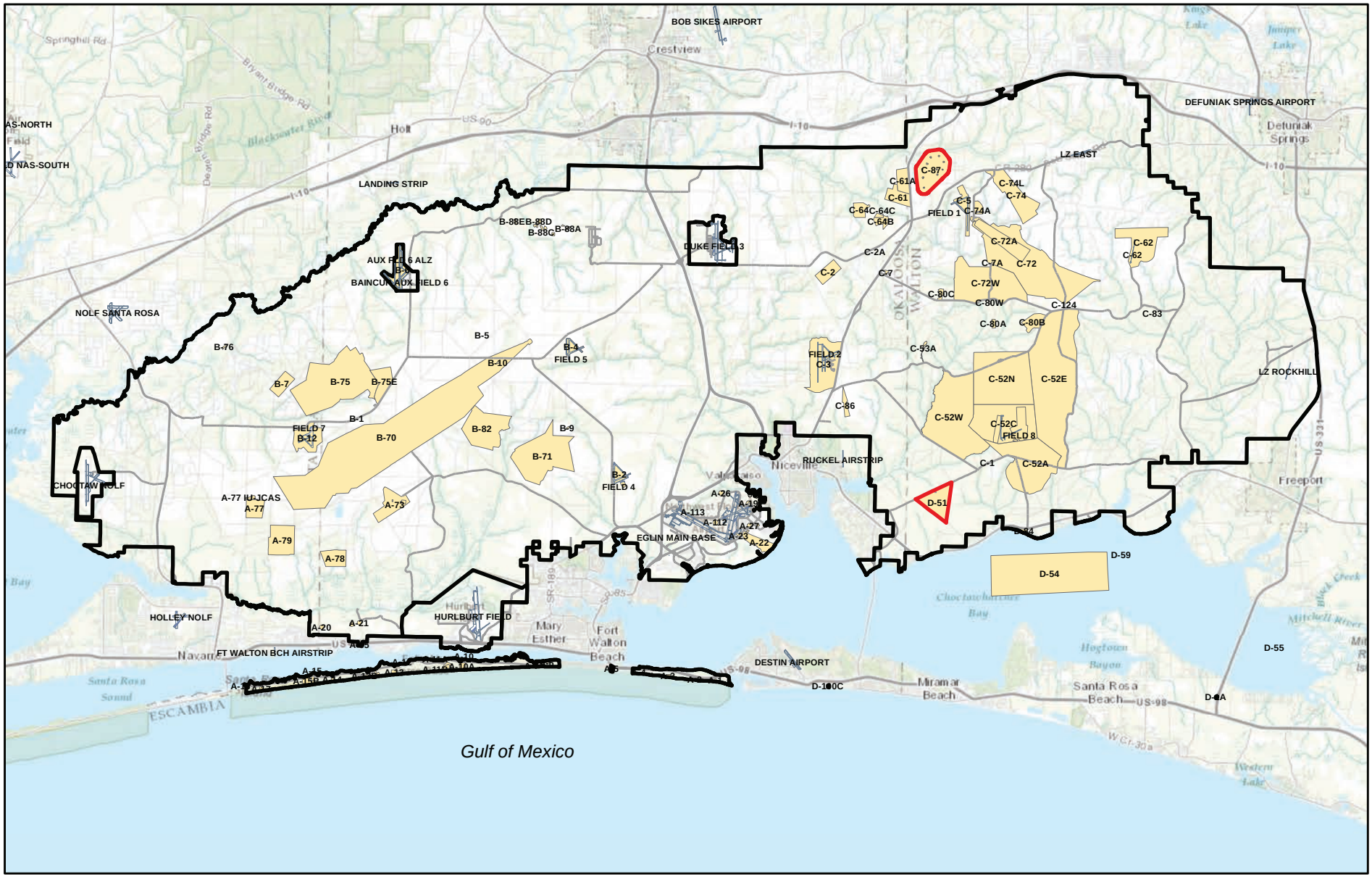


FIGURE 1-2
Test Areas C-87 and D-51 Vicinity Map
Test Areas C-87 and D-51 REA

- Eglin Air Force Base Instruction (EAFBI) 13-212, *Range Planning and Operations*
- Noise Control Act (Title 42, U.S. Code, Sections 4901 et seq.)
- Clean Air Act (Title 42, U.S. Code, Sections 7401 et seq.)
- Rivers and Harbors Act (Title 33, U.S. Code, Section 401)
- Clean Water Act (Title 33, U.S. Code, Sections 1251 et seq.)
- National Historic Preservation Act (Title 16, U.S. Code, Section 470)
- Archaeological Resources Protection Act (Title 16, U.S. Code, Section 470)
- Endangered Species Act (Title 16, U.S. Code, Section 1531 et seq.)
- Coastal Zone Management Act (Title 16, U.S. Code, Section 1451 et seq.)
- Resource Conservation and Recovery Act (Title 42, U.S. Code, Section 6901 et seq.)

This REA is required to accomplish the following objectives:

- Provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a FONSI.
- Aid in the Air Force's and Navy's compliance with NEPA when an EIS is not necessary and facilitate preparation of an EIS when necessary.

AFI 32-7061 directs Air Force officials to follow 32 CFR 989, which specifies the procedural requirements for the implementation of NEPA and requires consideration of environmental consequences as part of the planning and decision-making process. 32 CFR 989.14(g) requires preparation of a Finding of No Practicable Alternative (FONPA), which must be submitted to the Major Command Environmental Planning Function when the alternative selected is located in jurisdictional wetlands/surface waters or floodplains.

1.5 Interagency Coordination and Public Involvement

The Air Force invites public participation in the evaluation of the Proposed Action through the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. The Intergovernmental Coordination Act and EO 12372, *Intergovernmental Review of Federal Programs*, require federal agencies to cooperate with and consider state and local views in implementing a federal proposal. AFI 32-7060, *Interagency and Intergovernmental Coordination for Environmental Planning* (IICEP), requires the Air Force to implement the IICEP process, which is used for the purpose of facilitating agency coordination and implementing scoping requirements under NEPA.

All agencies, organizations, and members of the public having a potential interest in the Proposed Action will be given an opportunity to provide comments on the EA during a 30-day review period. At the end of the 30-day review period, the Air Force will evaluate all comments received and will modify the EA and/or Proposed Action based on the comments as appropriate. The Air Force may then execute a FONSI and proceed with the Proposed Action. If it is determined that implementation of the Proposed Action would result in significant impacts, the Air Force will either publish in the Federal Register a Notice of Intent to prepare an EIS, revise the Proposed Action to avoid significant impacts, incorporate mitigation to reduce impacts to less than significant, or not take the action.

1.5.1 Coastal Zone Management Consistency

The federal Coastal Zone Management Act (CZMA) provides assistance to states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. According to Section 307 of the CZMA, federal projects that affect land uses, water uses, or coastal resources in a state's coastal zone must be consistent, to the maximum extent practicable, with the enforceable policies of that state's federally approved coastal zone management plan.

The Florida Coastal Management Program (FCMP) is based on a network of agencies implementing 24 statutes that protect and enhance Florida's natural, cultural, and economic coastal resources. The Florida Department of Environmental Protection (FDEP) implements the FCMP through the Florida State Clearinghouse. The Clearinghouse routes applications for federal activities, such as EAs, to the appropriate state, regional, and local reviewers to determine federal agency consistency with the FCMP. Following their review of the EA, the FCMP state agencies provide comments and recommendations to the Clearinghouse based on their statutory authorities. Based on an

evaluation of the comments and recommendations, FDEP makes the state's CZMA consistency determination for the proposed federal activity. Comments and recommendations regarding federal agency consistency are then forwarded to the applicant in the state clearance letter issued by the Clearinghouse.

A letter and copies of the draft EA and draft FONSI, along with the Air Force's federal CZMA consistency determination, which is provided as Appendix A, were sent to the Florida State Clearinghouse to obtain the state's CZMA consistency determination for the Proposed Action. The state's CZMA consistency determination for the Proposed Action, all comments received from the Florida State Clearinghouse, and the Air Force's responses to the received comments are included in Appendix B.

1.5.2 Regulatory Agency Consultation

Consultation with pertinent state agencies, including the Florida Fish and Wildlife Conservation Commission (FWC) and State Historic Preservation Office (SHPO), occurred through the Florida State Clearinghouse. All comments received from the Florida State Clearinghouse and the Air Force's responses to the received comments are included in Appendix B.

1.5.3 Native American Tribe Consultation

The following five federally recognized Native American Tribes were consulted on the Proposed Action: the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Poarch Band of Creek Indians of Alabama, Muscogee (Creek) Nation of Oklahoma, and Thlopthlocco Tribal Town of the Creek (Muscogee) Nation of Oklahoma. A Memorandum For Record of these consultations is included in Appendix B.

1.5.4 Public Involvement

A 30-day public review period was held October 1 – October 30, 2014 to solicit public comments on the draft EA and draft FONSI. The public review/comment period was announced in a public Notice of Availability (NOA) in the *Northwest Florida Daily News* of Fort Walton Beach, Florida and *Bay Beacon* of Niceville, Florida (Appendix C). The draft EA and draft FONSI were made available for public review on the Eglin AFB public website. All comments received from the public and the Air Force's responses to the received comments are included in Appendix C.

1.6 Scope of the REA and Proposed Action

This REA assesses the potential environmental impacts associated with the Navy's Proposed Action to authorize and implement a new level of activity for NAVSCOLEOD operations on TAs C-87 and D-51 at Eglin AFB. More specifically, this REA assesses the potential environmental impacts of reasonable alternatives of the Proposed Action, including the No-Action Alternative of maintaining existing conditions, as described in Section 2. The Region of Influence (ROI) of the Proposed Action is the entire land areas of TAs C-87 and D-51. The scope of NAVSCOLEOD activities addressed in this REA is restricted to those conducted on TAs C-87 and D-51. NAVSCOLEOD activities conducted on TAs C-52N and C-52W at Eglin AFB are addressed in the REA prepared for the TA C-52 Complex.

1.7 Impact Analysis

This REA provides a detailed analysis of the potential direct, indirect, and cumulative impacts that would result from implementation of the Proposed Action. Direct impacts are those that would result from the Proposed Action at the same time and in the same place the action is being implemented. Indirect impacts are those that would result from the Proposed Action at a later time or farther removed in distance from the action, but are still reasonably foreseeable. Cumulative impacts are those that would result from the incremental impacts of the Proposed Action when added to other past, present, and reasonably foreseeable future actions. As appropriate, impacts are further discussed as being temporary, short-term, or long-term.

The magnitude of the impact is considered regardless of whether the impact is adverse or beneficial. The following terms are used to describe the magnitude of impacts in this REA:

- No Effect: The action would not cause a detectable change.
- Negligible: The impact would be at the lowest level of detection; the impact would not be significant.

- Minor: The impact would be slight but detectable; the impact would not be significant.
- Moderate: The impact would be readily apparent; the impact would not be significant.
- Major: The impact would be clearly adverse or positive; the impact has the potential to be significant. The significance of adverse and positive impacts is subject to interpretation and should be determined based on the final proposal. In cases of adverse impacts, the impact may be reduced to less than significant by mitigation, design features, and/or other measures that may be taken.

1.7.1 Resources Identified for Detailed Analysis

The following resources are analyzed in detail in this REA:

Air Quality

The analysis of air quality impacts in this REA focuses on potential degradation of air quality from emissions released during TA C-87 and TA D-51 operations and construction activities.

Noise

The analysis of noise impacts in this REA focuses on the potential impacts of noise generated during TA C-87 and TA D-51 operations and construction activities on noise-sensitive receptors such as residential communities. Potential noise impacts on biological receptors (animals, including sensitive species) are assessed as part of the biological resources impact analysis.

Soils

The analysis of soil impacts in this REA focuses on potential degradation of soil quality from hazardous materials released during TA C-87 and TA D-51 operations, and on potential physical/erosion impacts on soils from construction activities, munitions use, and personnel training.

Water Resources

The analysis of water resources impacts in this REA focuses on potential degradation of water quality from hazardous materials released during TA C-87 and TA D-51 operations, and on potential physical/erosion impacts on water resources from construction activities, munitions use, and personnel training.

Biological Resources

The analysis of biological resources impacts in this REA focuses on the potential impacts that TA C-87 and TA D-51 operations and construction activities would have on biota, including sensitive species. The impact analysis addresses noise, hazardous materials, wildfire starts, munition strikes, and erosion/sedimentation.

Cultural Resources

The analysis of cultural resources impacts in this REA focuses on the potential impacts of TA C-87 and TA D-51 operations and construction activities on cultural resources, which include but are not limited to, archaeological sites; historic buildings and structures; historic or prehistoric graves, cemeteries, or graveyards; and places of sacred and cultural significance to Native American Tribes and the local community.

Safety

The analysis of safety impacts in this REA focuses on the potential impacts of TA C-87 and TA D-51 operations on the health and safety of the public and military personnel.

Land Use

The analysis of land-use impacts in this REA focuses on the potential impacts of TA C-87 and TA D-51 operations on public use of surrounding interstitial areas, and the potential impacts of proposed infrastructure construction projects on existing land use.

Hazardous Materials/Wastes and Solid Waste

The analysis of hazardous materials/wastes and solid waste impacts in this REA focuses on the potential impacts associated with the handling, storage, and disposal of hazardous materials/wastes and solid waste during TA C-87 and TA D-51 operations and construction activities. The potential impacts that hazardous materials released during

TA C-87 and TA D-51 operations have on air quality, soils, water resources, and biological resources are assessed in this REA as part of the impact analyses for those resources.

Utilities

The analysis of utility impacts in this REA focuses on the potential impacts of proposed infrastructure construction projects on utility systems (electric, potable water, stormwater, and wastewater) at TAs C-87 and D-51.

Environmental Justice and Protection of Children

The analysis of Environmental Justice in this REA assesses whether TA C-87 and TA D-51 operations and construction activities would have disproportionate environmental or human health impacts on minority or low-income populations. The analysis of Protection of Children assesses whether TA C-87 and TA D-51 operations and construction activities would result in environmental health and safety risks that may disproportionately affect children.

1.7.2 Resources Eliminated from Detailed Analysis

The Proposed Action was determined to have little to no potential to affect several resources. Therefore, these resources were eliminated from detailed analysis in this REA. The resources that were eliminated from detailed analysis and the rationale for their elimination are presented below:

Airspace

All of the airspace that overlies TAs C-87 and D-51 is Restricted Area airspace that is reserved for military operations and cannot be entered by private or commercial aircraft without permission from Eglin AFB. Therefore, the Proposed Action would have no potential to result in non-military airspace restrictions or congestion. No activity under the Proposed Action is expected to impact military use of airspace.

Geology

The Proposed Action would not involve any intrusive activity that would affect subsurface geological formations. Therefore, the Proposed Action would have no effect on geology.

Topography

Infrastructure construction projects under the Proposed Action would involve only minor land contouring associated with grading of construction sites. Therefore, the Proposed Action would have little to no effect on topography.

Transportation

Some of the infrastructure construction projects under the Proposed Action would include associated access roads; the access roads would be constructed only on TAs C-87 and D-51 and would not affect the transportation system or traffic levels outside the test areas. Any traffic increase associated with construction activity would be negligible and limited to the construction period. Increases (Alternative 3) or decreases (Alternative 2) in the number of students who train on TA D-51 would have a negligible effect on traffic levels. For these reasons, the Proposed Action would have little effect on transportation.

Socioeconomics

The Proposed Action would not permanently change the number of persons working at Eglin AFB or living in the local area. Non-local workers who may be hired for proposed infrastructure construction projects are not expected to permanently relocate to the area as the construction work would be temporary. Proposed construction projects would have a positive impact on the local economy; however, the overall impact would be negligible. For these reasons, the Proposed Action would have little to no effect on the local demographics, local economy, number of persons living in on-base or off-base housing, number of children attending schools in the area, or demand for emergency services (medical, police, and fire-fighting).

SECTION 2

Alternatives

2.1 Introduction

The Navy's Proposed Action is to authorize and implement a new level of activity for NAVSCOLEOD operations on TAs C-87 and D-51 at Eglin AFB. Under NEPA and 32 CFR Part 989, this REA is required to analyze the potential environmental impacts of "reasonable" alternatives of the Proposed Action, including the No Action Alternative of maintaining existing conditions. Reasonable alternatives are those that meet the underlying purpose of and need for the Proposed Action, are feasible from a technical and economic standpoint, and, if applicable, meet reasonable screening criteria (selection standards) that are suitable to a particular action. Alternatives that are determined to not be reasonable can be eliminated from detailed analysis in this REA.

2.2 Alternatives Carried Forward for Detailed Analysis

The alternatives carried forward for detailed analysis in this REA were developed during an interdisciplinary team meeting at Eglin AFB, which included representatives from NAVSCOLEOD and the 96th Civil Engineer Group/Environmental Planning Office (96 CEG/CEIEA).

The following alternatives are analyzed in detail in this REA:

- Alternative 1 (No Action Alternative): Current baseline TA C-87 and TA D-51 activity
- Alternative 2: Foreseeable future TA C-87 and TA D-51 activity
- Alternative 3: Foreseeable future construction on TAs C-87 and D-51 under Alternative 2 and a mission surge in TA D-51 training activity

2.2.1 Alternative 1 (No Action Alternative)

Alternative 1 is the No Action Alternative of maintaining current baseline TA C-87 and TA D-51 activity. Current baseline activity under Alternative 1 includes current NAVSCOLEOD operations and existing infrastructure, as of Fiscal Year (FY) 2014, including infrastructure under construction during FY 2014.

NAVSCOLEOD has a current workforce of more than 500 active duty, civilian, and contract personnel. The NAVSCOLEOD training curriculum includes a mix of classroom and practical (hands-on) training, and consists of the following ten training divisions:

- Air Ordnance
- Biological and Chemical
- Core
- Demolition
- Ground Ordnance
- Improvised Explosive Devices (IEDs)
- Radiological Nuclear and Weapons of Mass Destruction (WMD)
- Tools and Methods
- Underwater Ordnance (Navy only; not conducted on TA C-7 or TA D-51)

TA D-51 is the primary site used by NAVSCOLEOD to conduct basic EOD training. TA D-51 assets include NAVSCOLEOD headquarters, applied instruction facilities, practical training areas, and training support and maintenance facilities. TA C-87 is the primary site used by NAVSCOLEOD to conduct advanced IED training, which is taken by personnel who have completed basic EOD training. TA C-87 assets include the Advanced IED Training Facility and nine associated practical training sites. Existing NAVSCOLEOD facilities and training areas on TA D-51 and TA C-87 are presented in **Table 2-1**, and shown on **Figures 2-1** and **2-2**, respectively.

TABLE 2-1

Existing NAVSCOLEOD Facilities and Training Areas on Test Areas D-51 and C-87

Test Areas C-87 and D-51 REA

Facility Number	Facility Name	Area (square feet)
Test Area D-51		
8830*	Ground/TMD Training Building	25,758
8835*	Core Training Building	16,953
8840	Kauffman EOD Training Building	62,538
8840A	EOD Memorial	5,395
8840B	EOD School Flagpole	
8840C	Break Shelter	196
8840D	Break Shelter	168
8840E	Water Treatment Plan	
8840F	Biological/Chemical Training Area	13 (acres)
8840ST	Septic Tank at 8840	
8840W	Well at 8840	
8841	Range Support Building C21	1,230
8841A	Training Shelter at 8841	1,904
8841B	Training Shelter at 8841	529
8841C	Training Shelter at 8841	529
8841D	EOD Range	
8841E	Time Fuse Shelter	868
8841F	Time Fuse Shelter	868
8841FP	Fragmentation Range	0.72 (acres)
8841ST	Septic Tanks at 8841	
8841T1	EOD Classroom	
8841T2	EOD Classroom	
8842	Fire Protection Pump House	336
8842P	Water Pump Facility, Fire Protection	
8843	IED/BC Training Building	36,464
8843A	Ground Ordnance Training Area	
8843C	Ground Training Storage	864
8843D	Training Shelter at 8843	576
8843E	Training Area	0.44 (acres)
8843G	Equipment Storage	216
8843ST	Septic Tank at 8843	
8844	Fire Protection Pump House	184
8844P	Water Pump Facility, Fire Protection	
8845T	EOD Classroom	
8846	Water Storage Potable	1,369
8847	Basic IED Training Storage	1,344
8848	Utility Building	130
8848A	Water Pressure Tank	
8849	Air Training Building	40,416
8849A	Training Shelter at 8849	529
8849B	Training Shelter at 8849	529
8849C	Training Shelter at 8849	168
8849D	Air Training Area	
8849E	Air Training Area	26 (acres)
8849ST	Septic Tank at 8849	
8851	Storage Building	240
8852	Facility Engineer Maintenance Shop	2,400
8852A	Material Storage Building	294
8853	Vehicle Maintenance Shop	2,430
8853B	Basic IED Training Area	
8856	Vehicle Maintenance Building	6,300
8856A	HAZMAT Storage Facility	200

Facility Number	Facility Name	Area (square feet)
8856B	Recreation Pavilion	289
8856ST	Septic Tank at 8856	
8857	Material Storage	3,000
8857A	Equipment Shed	294
8859	Wash Rack	760
8859A	Steam Generator Building	88
8861	EOD Supply Administration	2,244
8861ST	Compound Septic Tank	
8861W	Compound Well	
Test Area C-87		
8874	Advanced IED Training Facility	19,240
8874A	Water Treatment Building	198
8874B	AIED Fire Protection Pump House	153
8874C	AIED Dumpster Pad with Screen	531
8874ST	Septic Tank at 8874	
8874W	Well at 8874	
B1	AIED Farmhouse	900
B2	AIED Barn	700
C1	AIED Gas Station	1,580
C2	AIED Chlorine Building	414
D1	AIED Post Office	1,269
D2	AIED Office Building	1,320
D3	AIED House	975
E1	AIED Train Station	1,692
E2	AIED Police Station	1,320
E3	AIED Hotel	1,091
E4	AIED Newspaper Office	682
F1	AIED Bank	851
F2	AIED Library	1,422
F3	AIED Townhouse	1,920
G1	AIED Air Terminal	1,947
G2	AIED Hanger	2,754
G3	AIED Air Control Tower	256

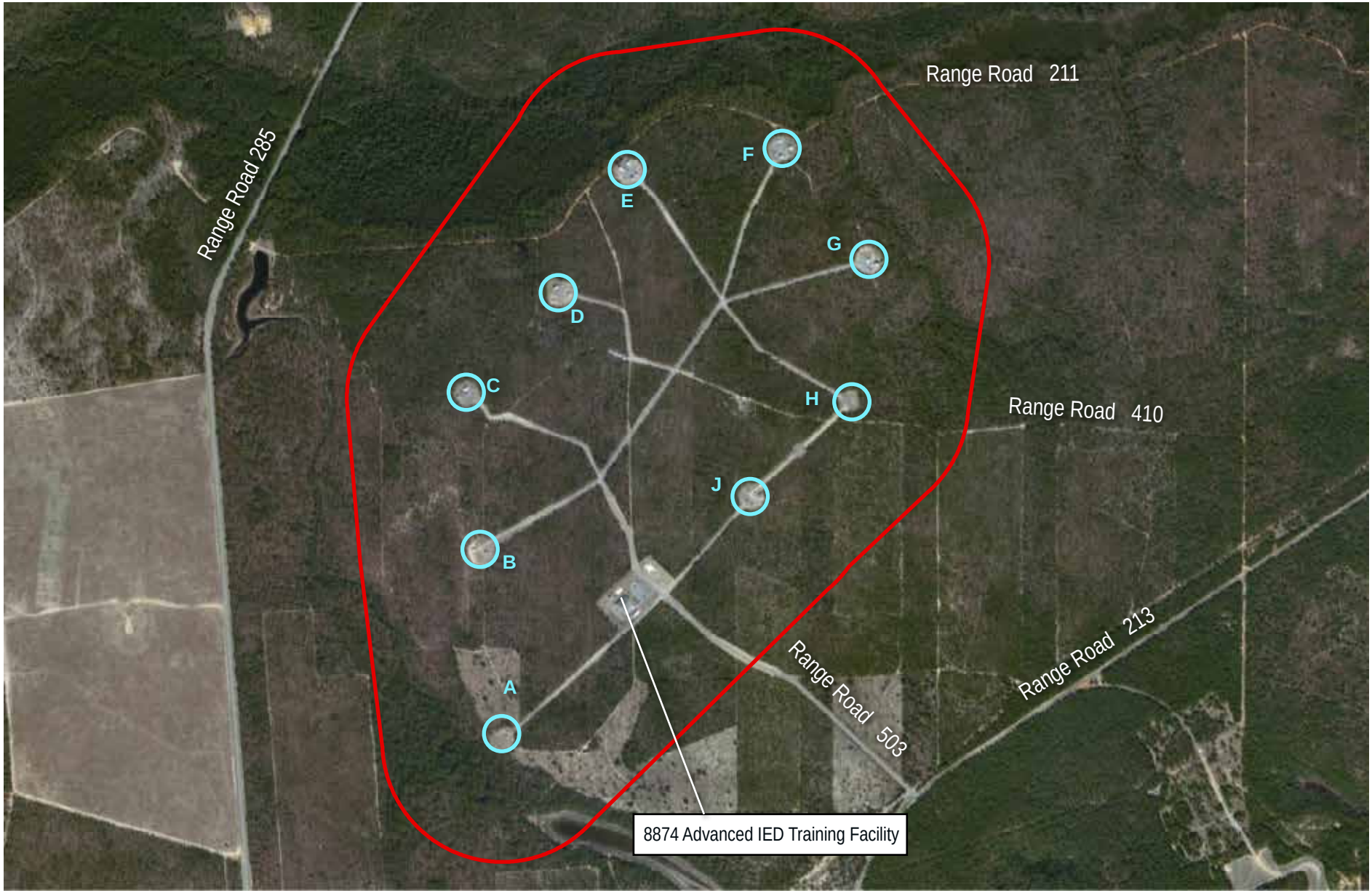
Infrastructure as of Fiscal Year (FY) 2014
*Under construction during FY 2014
Source: Naval School Explosive Ordnance Disposal (NAVSCOLEOD)

Three facilities are currently under construction on TA D-51 – Building 8830, Building 8835, and Dining Hall Kitchen in Building 8840. The water and wastewater utility systems on TA D-51 are also currently being upgraded. The upgrades include abandoning the existing water wells, aboveground water storage tank, and septic systems, and connecting the test area to the Okaloosa County water and wastewater utility lines/systems. These upgrades will improve water (potable and fire suppression) and sewage capacity on the test area.

Basic EOD training on TA D-51 is conducted in several training buildings (applied instruction facilities) and associated practical training areas. Basic EOD practical training involves the use of explosives as well as non-explosives training such as building identification techniques and use of tools and robotics for dismantling IEDs. Training involving explosives use is currently conducted in the Tools and Methods Division (TMD) Training Area, IED Training Area, and Demolition Range. Current explosives training on TA D-51 involves detonations of 1.5 pounds (lbs) Net Explosive Weight (NEW) using Composition 4 (C-4) explosive in the Demolition Range – up to 25 detonations per day for 50 weeks (5 days/week or 250 days) per year, and detonations of much smaller charges (average NEW = 0.07 lb) in the TMD and IED Training Areas - up to 25 detonations per day (combined total for both areas) for 50 weeks (5 days/week or 250 days) per year. The current annual (FY 2014) student population (annual quota) who receive basic EOD training on TA D-51 is 1,580 students per year. Basic EOD training is six months for non-Navy students and nine months for Navy students, who receive an additional three months of

FIGURE 2-1
Test Area D-51 Existing Facilities and Training Areas
Test Areas C-87 and D-51 REA

ES092713002216TPA F2-1 Test Area C-87 and D-51_rev9.ai



Notes:
- As of Fiscal Year 2014
- Some Facilities Not Labeled

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FIGURE 2-2
Test Area C-87 Existing Facilities and Training Areas
Test Areas C-87 and D-51 REA

underwater ordnance training (not on TA D-51). New student classes start every three days and each class consists of 25 students. A total of 420 NAVSCOLEOD staff currently provide classroom/practical training or medical and administrative support on TA D-51.

Advanced IED training on TA-C87 is conducted in the Advanced IED Training Facility (Building 8874) and at the nine associated practical training sites. The practical training sites contain mock structures that simulate various types of real-world buildings and urban/rural settings. Advanced IED practical training at these sites include the use of explosives as well as training involving various non-explosive techniques. Current explosives training on TA C-87 involves detonations of 0.15 to 2.5 lbs NEW using C-4 or Detonation Cord (Detcord) - up to 24 detonations per day (combined total for all practical training sites) for 30 weeks (5 days/week or 150 days) per year. Detonations of up to 35 lbs NEW (maximum) using C-4 are also conducted on practical training site H – up to 15 detonations per year (1 detonation per class). The current annual (FY 2014) student population (annual quota) who receive advanced IED training on TA C-87 is 360 students per year. There are a total of 15 classes per year; each class consists of 24 students and lasts 15 days. A total of 15 NAVSCOLEOD staff currently conduct or support training on TA C-87.

2.2.2 Alternative 2

Alternative 2 is foreseeable future TA C-87 and TA D-51 activity, which includes NAVSCOLEOD operations and infrastructure construction expected to occur from FY 2014 (baseline activity) to FY 2020.

Test Area D-51

Foreseeable future infrastructure construction on TA D-51 would primarily include the following projects:

- Nine new WMD practical training sites
- New building in Facilities Compound
- New auditorium
- New physical training (PT) field
- New field house
- Boneyard renovation

The nine new WMD practical training sites would allow expansion of the basic EOD training curriculum on TA D-51 to include training on WMD detection and disposal. Incorporation of WMD training into the basic EOD training program is mandated by the 2010 Quadrennial Defense Review. Existing training buildings and practical training areas on TA D-51 currently do not meet the facility, space, structural, or technological requirements of WMD training, and cannot be modified to do so without degrading the training functions they currently support. The nine WMD practical training sites would be constructed in the area south of the existing Air Training Area and east of the existing Demolition Range (**Figure 2-3**). All the new WMD practical training sites would be sited by the Department of Defense Explosives Safety Board (DDESB) via the Air Force. Each practical training site would consist of an explosive/blast pit (4,359 ft^2), command post with parking (14,994 ft^2), and mock structures that simulate various types of real-world buildings and other infrastructure. The practical training sites would be interconnected by an access road and the area encompassing the sites would be designated as the WMD Training Area. Once the WMD Training Area is operational, a portion of the small charges (average NEW = 0.07 lb) currently detonated in the TMD and IED Training Areas would be detonated in the new WMD Training Area. The maximum daily detonations of small charges on TA D-51 would continue to be 25 detonations per day.

A new steel shop/sign engraving and bus/vehicle/equipment dispatch building is proposed to be constructed in the TA D-51 Facilities Compound located adjacent to the northeastern end of TA D-51 (see **Figure 2-3**). The proposed new building would replace the functions of existing Buildings 8851, 8852, 8853, and a storage shed located in the Facilities Compound. Buildings 8852 and 8853 are structurally unsafe, have poor ventilation and leaking roofs, and may soon be uninhabitable. The project would include demolition of Buildings 8852 and 8853 (3,615 ft^2 total), Building 8851 (240 ft^2), and the storage shed (800 ft^2). The proposed new building would be a one-story, 4,500 ft^2 concrete structure with metal siding. It would contain a work bay, office areas,

toilet/shower/locker areas, and open shop / lounge areas, and would have a total occupancy load of approximately 15 staff.

The new auditorium is proposed to be constructed just east of existing Building 8840 on TA D-51, in an area that currently consists mostly of an existing paved parking lot (see **Figure 2-3**). The new auditorium would provide an assembly area for large groups to conduct command-level training and graduation ceremonies, and would serve as a shelter during severe weather. Currently, there is no facility large enough on TA D-51 where students and staff can assemble in large groups for training, safety stand down, graduation ceremonies, or take refuge in a protected shelter from sudden severe weather. The new auditorium would be 10,080 ft^2 and would include a 14,000 ft^2 adjacent parking lot for 70 vehicles.

The new PT field is proposed to be constructed southeast of existing Building 8840 and south of the existing Core Training Area on TA D-51, in an unpaved (dirt) 12.5-acre area that is currently used for parking (see **Figure 2-3**). Required Organized and Core Physical Fitness Team Event Training for basic EOD students is currently conducted at the East Gate track and field on Eglin Main. The basic EOD students share the East Gate track and field with many other personnel from separate commands. The track and field is not large enough to accommodate concurrent PT by the basic EOD students and other users. Moreover, the current condition results in considerable traffic congestion on the roads and parking lots in the area. The proposed new PT field on TA D-51 would allow basic EOD students to adequately fulfill their organized team PT requirements and would alleviate the current congestion experienced on Eglin Main. The PT field would include a 1-mile track and various exercise areas and obstacles. The PT field would consist largely of dirt/grass surfaces. Existing stored dirt on TA D-51 would be applied over the proposed site; site excavation would not be required.

The new field house is proposed to be constructed in the northwestern part of the proposed new PT field on TA D-51 (see **Figure 2-3**). The field house would be a 13,520 ft^2 facility that includes showers and toilets for men and women. The proposed facility would replace the current use of port-a-lets on the test area and allow men and women to change clothes and shower after PT activities.

Renovation of the existing boneyard (material storage area) on TA D-51 (see **Figure 2-3**) would primarily involve application of asphalt/gravel to the ground, construction of two covered storage structures, construction of an access road and concrete dumpster pad, replacement of existing fences, and removal/relocation of existing miscellaneous storage structures. The proposed project is needed to upgrade aging infrastructure and improve the functionality of the boneyard, which currently does not adequately meet the storage needs of the test area. A total of 112,452 ft^2 (2.6 acres) of asphalt and/or gravel aggregate would be applied to the ground surface. The areas where the aggregate would be applied currently have dirt surfaces. The two new covered storage structures would each be 15,400 ft^2 (combined = 30,800 ft^2). Each of the new storage structures would be constructed in an area that is partially dirt surface and partially concrete/gravel surface; for the purpose of analysis, each area is assumed to be 50 percent pervious and 50 percent impervious. The new access road would be 8,136 ft^2 and the new concrete dumpster pad would be 2,200 ft^2. The access road and dumpster pad would be constructed in areas that currently have dirt surfaces. Excluding the existing impervious areas where the covered storage structures would be constructed, the total impervious area that would be created by the project would be approximately 138,188 ft^2 (3.2 acres).

The annual student population who receive basic EOD training on TA D-51 is projected to decrease over the foreseeable future. The annual student quota is expected to decrease from the current baseline of 1,580 students (FY 2014) to 1,422 students in FY 2015, and then to 1,272 students in FY 2016, and remain at 1,272 students through FY 2020 (**Table 2-2**). Each class would continue to consist of 25 students; however, new student classes would start every four days instead of every three days beginning in FY 2015. The total number of NAVSCOLEOD staff who conduct or support training on TA D-51 is expected to decrease from 420 personnel to 360 personnel beginning in FY 2015, and remain at 360 personnel through FY 2020. Foreseeable future explosives training on TA D-51 would continue to involve up to 25 detonations per day of 1.5 lbs NEW using C-4 in the Demolition Range for 50 weeks (5 days/week or 250 days) per year. As discussed above, a portion of the

Notes:
- As of Fiscal Year 2014
- Some Facilities Not Labeled

FIGURE 2-3
Test Area D-51 Foreseeable Infrastructure Construction
Test Areas C-87 and D-51 REA

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much smaller charges (average NEW = 0.07 lb) currently detonated in the TMD and IED Training Areas would be detonated in the new WMD Training Area once it is operational; the maximum daily detonations of these smaller charges on TA D-51 would continue to be 25 detonations per day for 50 weeks (5 days/week or 250 days) per year.

TABLE 2-2
Test Area D-51 Annual Student Quotas, New Class Start Intervals, and Total Staff Numbers
Test Areas C-87 and D-51 REA

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Annual Student Quota (Students/Year)							
Army	908	750	600	600	600	600	600
Marine Corps	95	95	95	95	95	95	95
Navy	182	182	182	182	182	182	182
Air Force	270	270	270	270	270	270	270
International	125	125	125	125	125	125	125
TOTAL	1580	1422	1272	1272	1272	1272	1272
New Class Start Interval (Days)							
	3	4	4	4	4	4	4
Total Number of Staff							
	420	360	360	360	360	360	360

FY – Fiscal Year
Source: Naval School Explosive Ordnance Disposal

Test Area C-87

Foreseeable future infrastructure construction on TA C-87 would primarily include the following projects:

- Four new advanced IED practical training sites
- New perimeter security fence
- New Tactical Post Blast Course

Four new advanced IED practical training sites are proposed to be constructed in the area on TA C-87 where the nine existing practical training sites are located (**Figure 2-4**). Site K has already been sited and approved by the DDESB. Sites L, M, and N would be sited by the DDESB via the Air Force. The new practical training sites would be similar in size and appearance to the existing practical training sites, but would contain different mock structures to provide a greater diversity of simulated training scenarios for advanced IED students.

The proposed new perimeter security fence would encompass the existing and proposed new practical training sites on TA C-87 (see **Figure 2-4**). The current lack of a perimeter security fence allows unauthorized access into TA C-87, which in addition to posing a public safety risk, has resulted in past theft and vandalism of site training equipment/aides. The proposed new perimeter security fence would be chain link with barbed wire, 7 ft in height, and approximately 20,100 ft (3.8 miles) in total length. Two access control gates would be constructed on the fence and a minimum 15-ft AT/FP setback would be maintained between the fence and the practical training sites.

The proposed new Tactical Post Blast Course is needed to provide training on proper tactics, techniques, and procedures on post-blast (following detonation of an item) intelligence gathering. The new Tactical Post Blast Course would include an applied instruction facility, vehicular storage facility, and six simulated post-blast practical training sites. The applied instruction facility would be 15,392 ft^2, the vehicular storage facility would be 1,076 ft^2, and the six post-blast practical training sites would each be 646 ft^2 (3,876 ft^2 total). The post-blast practical training sites would contain mock structures that simulate various types of real-world buildings and other infrastructure. The exact location of the Tactical Post Blast Course on TA C-87 has yet to be determined; however, all components of the course would be located within the proposed new perimeter security fence (see **Figure 2-4**). The new post-blast practical training sites would be sited by the DDESB via the Air Force.

The annual student population who receive advanced IED training on TA C-87 is not expected to change over the foreseeable future, i.e., the current annual (FY 2014) student quota is expected to remain at 360 students through FY 2020. A total of 15 classes would continue to be provided per year, with each class continuing to consist of 24 students and lasting 15 days. The total number of NAVSCOLEOD staff who conduct or support training on TA C-87 is expected to remain at the current baseline of 15 personnel through FY 2020. Foreseeable future explosives training on TA C-87 would continue to involve up to 24 detonations per day of 0.15 to 2.5 lbs NEW using C-4 or Detcord for 30 weeks per year; however, some of the detonations would be conducted at the four new advanced IED practical training sites and six new post-blast practical training sites once they are operational. Detonations of up to 35 lbs NEW (maximum) using C-4 would continue to be conducted on practical training site H for up to 15 detonations per year (1 detonation per class).

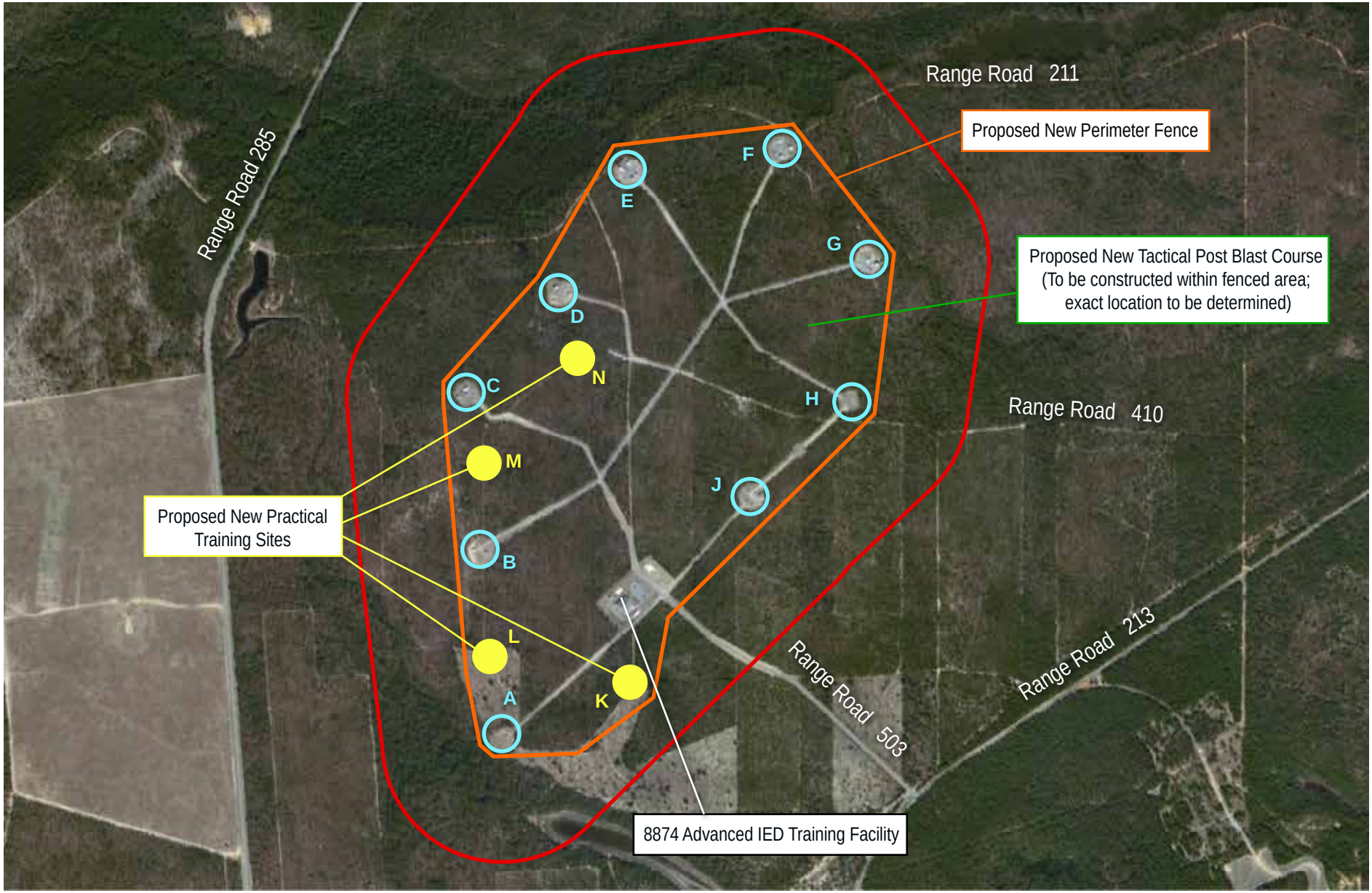
2.2.3 Alternative 3

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity expected to occur during wartime or other significant military involvement, as predicted by NAVSCOLEOD personnel (Brian Tschannen, Personal Communication, April 21, 2014). Advanced IED training activity on TA C-87 is not expected to increase during a mission surge; therefore, TA C-87 training activity under Alternative 3 would remain at the current baseline level (FY 2014) as discussed for Alternative 1.

Under Alternative 3, mission-surge training activity on TA D-51 is defined as follows:

- A 100 percent increase in the current annual (FY 2014) student population (annual quota) who receive basic EOD training on TA D-51, which equates to an increase from 1,580 students per year to 3,160 students per year. New student classes would continue to start every three days; however, each class would consist of 50 students instead of 25 students.
- A 25 percent increase in the total number of NAVSCOLEOD staff who currently provide or support training on TA D-51, which equates to an increase from 420 personnel to 504 personnel.
- A 100 percent increase in the number of detonations per day of 1.5 lbs NEW using C-4 currently conducted in the Demolition Range, which equates to an increase from 25 detonations per day to 50 detonations per day for 50 weeks (5 days/week or 250 days) per year.
- A 100 percent increase in the number of detonations per day of small charges (average NEW = 0.07 lb) currently conducted in the TMD and IED Training Areas, which equates to an increase from 25 detonations per day to 50 detonations per day for 50 weeks (5 days/week or 250 days) per year. Given that Alternative 3 includes construction of the proposed new WMD Training Area as discussed for Alternative 2, a portion of the 50 small-charge detonations under Alternative 3 would be conducted in the new WMD Training Area once it is operational.

Table 2-3 presents TA D-51 training activity under Alternative 1 (current baseline) and Alternative 3 (mission surge).



Legend

- Approximate Boundary of Test Area C-87
- Existing Practical Training Site

North

0 0.25 0.5
Miles

Notes:
- As of Fiscal Year 2014
- Some Facilities Not Labeled

FIGURE 2-4
Test Area C-87 Foreseeable Infrastructure Construction
Test Areas C-87 and D-51 REA

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TABLE 2-3
Test Area D-51 Training Activity Under Alternative 1 and Alternative 3
Test Areas C-87 and D-51REA

Training Activity Metric	Alternative 1 (Current Baseline)	Alternative 3[a] (Mission Surge)	Percent Change
Annual Student Quota (Students/Year)	1,580	3,160	100%
Total Number of Staff	420	504	25%
Total Detonations/Day of 1.5 lbs NEW	25	50	100%
Total Detonations/Day of Small Charges (Average NEW = 0.07 lb)	25	50	100%

lb – pound
NEW – Net Explosive Weight
[a] – Mission-surge training activity predicted by Naval School Explosive Ordnance Disposal personnel
Source: Naval School Explosive Ordnance Disposal

2.3 Alternatives Considered but Eliminated from Detailed Analysis

During development of alternatives of the Proposed Action, consideration was given to an alternative that would involve TA C-87 and TA D-51 activity beyond FY 2020 (modified versions of Alternatives 2 and 3). However, it was determined that while infrastructure projects beyond FY 2020 have been considered by NAVSCOLEOD master planning, sufficient siting/design information is currently not available on those projects to allow detailed analysis of their potential environmental impacts in this REA. Projections of TA C-87 and TA D-51 training activity beyond FY 2020, such as annual student quotas and detonation activity, are also not currently available. For these reasons, this alternative was eliminated from detailed analysis in this REA.

2.4 Identification of the Preferred Alternative

The preferred alternative is Alternative 3 – foreseeable future construction on TAs C-87 and D-51 under Alternative 2 and a mission surge in TA D-51 training activity, as described in Section 2.2.3. TA D-51 training activity would be implemented at a mission surge level only during wartime or other significant military involvement. In the absence of a mission surge, foreseeable future TA D-51 training activity is expected to be conducted as discussed for Alternative 2. To account for the potential future need to implement TA D-51 training activity at a mission surge level, Alternative 3 is identified as the preferred alternative in this REA.

SECTION 3

Affected Environment and Environmental Consequences

This section addresses the "Affected Environment" and "Environmental Consequences" of the Proposed Action. The Affected Environment is the existing condition of each resource for which the alternatives of the Proposed Action are assessed. The Environmental Consequences are the potential impacts of the alternatives on each resource. The approach used to conduct the impact analysis in this REA is explained in Section 1.7.

3.1 Air Quality

3.1.1 Affected Environment

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. USEPA has established NAAQS for the following six principal pollutants, which are called criteria pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone, particulate matter (PM), and sulfur dioxide (SO_2) (**Table 3-1**). Areas that meet the air quality standard for the criteria pollutants are designated as being "in attainment." Areas that do not meet the air quality standard for one of the criteria pollutants may be subject to the formal rule-making process and designated as being "in nonattainment" for that standard. Areas that currently meet the air quality standard but previously were classified as nonattainment are "in maintenance" for that standard. Walton County, the county in which TAs C-87 and D-51 are located, is currently classified as being "in attainment" for all criteria pollutants stipulated under the NAAQS.

TABLE 3-1
National Ambient Air Quality Standards
Test Areas C-87 and D-51REA

Pollutant		Primary/Secondary	Averaging Time	Level	Form
Carbon Monoxide		Primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead		Primary and Secondary	Rolling 3 month average	0.15 µg/m^3	Not to be exceeded
Nitrogen Dioxide		Primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and Secondary	Annual	53 ppb	Annual mean
Ozone		Primary and Secondary	8-hour	0.075 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	Primary	Annual	12 µg/m^3	Annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
	PM_{10}	Primary and Secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
		Primary and Secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years

TABLE 3-1
National Ambient Air Quality Standards
Test Areas C-87 and D-51REA

Pollutant	Primary/Secondary	Averaging Time	Level	Form
Sulfur Dioxide	Primary	1-hour	75 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

As of October 2011
$PM_{2.5}$ – particulate matter less than 2.5 microns in diameter
PM_{10} – particulate matter less than 10 microns in diameter
ppm – parts per million
$\mu g/m^3$ – micrograms per cubic meter
ppb – parts per billion
Data Source: U.S Environmental Protection Agency, 2015

Eglin AFB is a major source of criteria pollutants under the federal Title V Operating Permit Program, and currently operates under Title V Operation Permit 0910031-017-AV. This permit regulates specific major stationary sources of air emissions at Eglin AFB and requires that the emissions from these sources do not exceed major source values regulated under the Title V program. Mobile sources of air emissions at Eglin AFB are not regulated under the Title V permit but they represent a substantial percentage of Eglin's total air emissions. Emissions from mobile sources at Eglin AFB are periodically inventoried as part of Eglin's air quality management program. Eglin AFB emits hazardous air pollutants (HAPs) during fuel storage, painting, and other activities. HAP emissions at Eglin AFB are estimated on an annual basis, however, Eglin is not a major source of HAPs.

Greenhouse gases (GHGs) are gases that trap heat in the Earth's atmosphere. They are emitted by both natural processes and human activities, and their accumulation in the atmosphere regulates temperature. GHGs include carbon dioxide (CO_2), methane, nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. To compare GHGs to each other, each GHG quantity is translated into a common unit called the "carbon dioxide equivalent" (CO_{2e}). There are no established thresholds or standards for GHGs. However, on December 18, 2014, the Council on Environmental Quality (CEQ) released revised draft guidance on how the effects of GHG emissions and climate change should be considered under NEPA (CEQ, 2014). According to this guidance, a quantitative analysis and disclosure of GHG emissions is no warranted unless the proposed action's direct annual emissions would be greater than 25,000 metric tons of CO_{2e}. This amount of greenhouse gas emissions is a reference point for disclosure and not a threshold of significance.

3.1.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 1 have the potential to degrade air quality primarily via emissions released during explosives training. Alternative 1 is the No Action Alternative of maintaining current baseline TA C-87 and TA D-51 activity; therefore, the net air emissions under Alternative 1 is zero. Current explosives training on TA C-87 involves up to 24 detonations per day of 0.15 to 2.5 lbs NEW using C-4 or Detcord for 30 weeks (5 days/week or 150 days) per year. Detonations of up to 35 lbs NEW (maximum) using C-4 are also conducted on practical training site H for up to 15 detonations per year (see Section 2.2.1). Current explosives training on TA D-51 involves up to 25 detonations per day of 1.5 lbs NEW using C-4 and up to 25 detonations per day of much smaller charges that have an average NEW of 0.07 lb for 50 weeks (5 days/week or 250 days) per year (see Section 2.2.1).

C-4 is composed mostly of Research Department Explosive (RDX [cyclotrimethylene trinitramine]), which makes up approximately 91 percent of its mass. The other components of C-4 include a plasticizer (5.3%), binder

(2.1%), and non-detergent motor oil (1.6%). The explosive by-products of C-4 detonations primarily include water, CO_2, nitrogen gas, and CO, and lesser amounts of other materials. Detonation emission factors have been developed for a number of explosive by-products, including criteria pollutants, based on open detonation tests conducted at the U.S. Army's Dugway Proving Ground in Utah (Wilcox et al., 1996). The detonation emission factor for a criteria pollutant is the ratio of the mass of the criteria pollutant produced to the mass of the item detonated. Detonation emission factors have not been developed for detonations of C-4, however, they have for detonations of Composition B, which is also composed mostly of RDX.

To estimate the total annual criteria pollutant emissions that are generated by explosive training on TAs C-87 and D-51, the total annual amount of C-4 that is detonated on each test area under the maximum baseline training scenario was multiplied by the Composition B detonation emission factor developed by Wilcox et al. (1996) for each criteria pollutant. The resulting estimations of total annual criteria pollutant emissions on each test area were then compared to the respective pollutant emissions reported by the 2011 National Emissions Inventory (NEI) for Walton County (USEPA, 2014a). Under the provisions of the General Conformity Rule (40 CFR 51, Subpart W), federal actions occurring in areas designated as being "in non-attainment" or "in maintenance" are considered to have potential impacts on air quality if their total annual emissions for any criteria pollutant equal or exceed 10 percent of the ROI's total annual emissions for the respective pollutant. As discussed in Section 3.1.1, Walton County is classified as being "in attainment" for all criteria pollutants; therefore, a conformity determination is not required for TA C-87 or TA D-51 operations. However, the criteria used under the General Conformity Rule is nonetheless considered in the assessment of impacts to air quality. Moreover, by comparing annual TA C-87 and TA D-51 emissions to annual Walton County emissions, instead of to annual regional emissions as required by the General Conformity Rule, impacts on air quality are more conservatively assessed.

To provide a conservative estimate of annual explosives training emissions on TA C-87 under Alternative 1, the analysis assumes a maximum baseline training scenario of 24 detonations per day (150 days/year) of 2.5 lbs NEW of C-4 and 15 detonations per year of 35 lbs NEW of C-4, which equates to a total annual quantity of 9,000 lbs of C-4. To provide a conservative estimate of annual explosives training emissions on TA D-51 under Alternative 1, the analysis assumes a maximum baseline training scenario of 25 detonations per day (250 days/year) of 1.5 lbs NEW of C-4 and 25 detonations per day (250 days/year) of 0.07 lb NEW of C-4, which equates to a total annual quantity of 9,812.5 lbs of C-4. The estimated maximum annual TA C-87 and TA D-51 explosives training emissions under Alternative 1 and the total annual pollutant emissions reported by the 2011 NEI for Walton County are presented in **Table 3-2**.

TABLE 3-2
Estimated Maximum Annual Test Area C-87 and Test Area D-51 Explosives Training Emissions under Alternative 1
Test Areas C-87 and D-51 REA

Pollutant	C-87 Emissions[a] (tons/year)	D-51 Emissions[a] (tons/year)	C-87 and D-51 Combined Emissions (tons/year)	Total Walton County Emissions[b] (tons/year)	Percent of Walton County Emissions
CO	0.0177	0.0182	0.0359	42,937.8913	<0.01
Lead	0.0026	0.0027	0.0053	0.0464	11.4
NO_x	0.0451	0.0464	0.0915	4,302.6215	<0.01
PM_{10}	0.0586	0.0603	0.1189	6,507.3821	<0.01
SO_2	0.0006	0.0006	0.0012	253.5369	<0.01
VOCs	0.0005	0.0006	0.0011	45,014.4888	<0.01

CO - carbon monoxide; NO_x - nitrogen oxides; SO_2 - sulfur dioxide; PM_{10} - particulate matter less than 10 microns in diameter; VOCs – volatile organic compounds (not a criteria pollutant)

[a] - Estimated using Composition B detonation emission factors developed by Wilcox et al. (1996). Ozone was consumed during every detonation test and, therefore, has no emission factor. NO_x emissions are based on emission factors for NO and NO_2

[b] – Based on 2011 National Emissions Inventory (U.S. Environmental Protection Agency, 2014a)

Source: Author created

As indicated in **Table 3-2**, all estimated maximum annual TA C-87 and TA D-51 combined explosives training emissions of criteria pollutants and VOCs, except for lead, under Alternative 1 are less than 0.01 percent of the respective total annual Walton County emissions. The estimated maximum annual TA C-87 and TA D-51 combined explosives training emissions of lead are 11.4 percent of the total annual Walton County emissions of lead. As discussed above, Walton County is classified as being "in attainment" for all criteria pollutants; therefore, a conformity determination is not required for TA C-87 or TA D-51 operations. If the criteria under the General Conformity Rule is nonetheless considered, the estimated maximum annual lead emissions for the combined test areas would be far below 10 percent of the total annual lead emissions of the applicable Air Quality Region, which includes 3 counties in Alabama, 10 counties in Florida, and 37 counties in Mississippi. At their expected generation levels, total annual TA C-87 and TA D-51 emissions under Alternative 1 are expected to be below the 25,000 metric tons of CO_{2e} which is the reference point suggested per revised draft CEQ guidance for quantitative analysis and disclosure of GHG emissions (CEQ, 2014).

Based on the analysis conducted, Alternative 1 has a negligible impact on air quality. The impact is not significant.

Alternative 2

Foreseeable future NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 2 have the potential to degrade air quality primarily via emissions released during explosives training and emissions released during infrastructure construction. Foreseeable future explosives training on TAs C-87 and D-51 under Alternative 2 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the new trainings sites/areas proposed to be constructed on each test area (see Section 2.2.2). Therefore, TA C-87 and TA D-51 explosives training emissions under Alternative 2 would be the same as those under Alternative 1.

Foreseeable future infrastructure construction on TAs C-87 and D-51 would generate fugitive dust (particulate matter) and construction equipment exhaust emissions. These air emissions would vary daily, depending on the level and type of work conducted. Fugitive dust would be generated by construction vehicle and equipment travel on dirt surfaces and by wind action on stockpiled materials. Generated fugitive dust would consist primarily of nontoxic particulate matter and would be controlled at the sites using best management practices (BMPs). Pollutants that would be emitted from the internal combustion engine exhausts of construction vehicles and equipment include certain criteria pollutants and VOCs. The Air Force's Air Conformity Applicability Model (ACAM), Version 5.0 (2014) was used to estimate the quantities of criteria pollutants and VOCs that would be generated from the infrastructure construction projects proposed under Alternative 2. To provide a conservative estimate of construction emissions, the ACAM analysis assumes that all the infrastructure construction projects on TAs C-87 and D-51 would occur during the same year. The ACAM report and summarized data inputs are provided as Appendix D.

The estimated maximum annual TA C-87 and TA D-51 explosives training and infrastructure construction emissions under Alternative 2, and the total annual pollutant emissions reported by the 2011 NEI for Walton County are presented in **Table 3-3**.

TABLE 3-3
Estimated Maximum Annual Test Area C-87 and Test Area D-51 Explosives Training and Infrastructure Construction Emissions under Alternative 2
Test Areas C-87 and D-51 REA

Pollutant	Explosives Training Emissions[a] (tons/year)		Construction Emissions[b] (tons/year)	C-87 and D-51 Total Combined Emissions (tons/year)	Total Walton County Emissions[c] (tons/year)	Percent of Walton County Emissions
	C-87	D-51	C-87 and D-51			
CO	0.0177	0.0182	16.234	16.2699	42,937.8913	0.04
Lead	0.0026	0.0027	0	0.0053	0.0464	11.4
NO_x	0.0451	0.0464	22.871	22.9625	4,302.6215	0.53
PM_{10}	0.0586	0.0603	50.808	50.9269	6,507.3821	0.78
SO_2	0.0006	0.0006	0.034	0.0352	253.5369	0.01
VOCs	0.0005	0.0006	4.991	4.9921	45,014.4888	0.01

CO - carbon monoxide; NO_x - nitrogen oxides; SO_2 - sulfur dioxide; PM_{10} - particulate matter less than 10 microns in diameter; VOCs – volatile organic compounds (not a criteria pollutant)

[a] - Estimated using Composition B detonation emission factors developed by Wilcox et al. (1996). Ozone was consumed during every detonation test and, therefore, has no emission factor. NO_x emissions are based on emission factors for NO and NO_2.

[b] - U.S. Air Force Air Conformity Applicability Model (ACAM), Version 5.0, 2014.

[c] - Based on 2011 National Emissions Inventory (U.S. Environmental Protection Agency, 2014a)

Source: Author created

As indicated in **Table 3-3**, all estimated maximum annual TA C-87 and TA D-51 combined explosives training and infrastructure construction emissions of criteria pollutants and VOCs, except for lead, under Alternative 2 are less than 1 percent of the respective total annual Walton County emissions. As discussed for Alternative 1, the estimated maximum annual lead emissions for the combined test areas under Alternative 2 would be far below 10 percent of the total annual lead emissions of the applicable Air Quality Region, which includes 3 counties in Alabama, 10 counties in Florida, and 37 counties in Mississippi. At their expected generation levels, total annual TA C-87 and TA D-51 emissions under Alternative 2 are expected to be below the 25,000 metric tons of CO_{2e} which is the reference point suggested per revised draft CEQ guidance for quantitative analysis and disclosure of GHG emissions (CEQ, 2014).

Based on the analysis conducted, Alternative 2 would have a negligible impact on air quality. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Therefore, infrastructure construction emissions under Alternative 3 would be the same as those under Alternative 2 and TA C-87 explosives training emissions under Alternative 3 would be the same as those under Alternative 1 (and Alternative 2).

Under Alternative 3, mission-surge explosives training activity on TA D-51 would involve a 100 percent increase in the number of Alternative 1 detonations of 1.5 lbs NEW and Alternative 1 detonations of small charges (average NEW = 0.07 lb). Applying a 100 percent increase to the maximum baseline training scenario analyzed under Alternative 1 yields 50 detonations per day (250 days/year) of 1.5 lbs NEW of C-4 and 50 detonations per day (250 days/year) of 0.07 lb NEW of C-4, which equates to a total annual quantity of 19,625 lbs of C-4. The estimated maximum annual TA C-87 and TA D-51 explosives training and infrastructure construction emissions under Alternative 3, and the total annual pollutant emissions reported by the 2011 NEI for Walton County are presented in **Table 3-4**.

TABLE 3-4
Estimated Maximum Annual Test Area C-87 and Test Area D-51 Explosives Training and Infrastructure Construction Emissions under Alternative 3
Test Areas C-87 and D-51 REA

Pollutant	Explosives Training Emissions[a] (tons/year)		Construction Emissions[b] (tons/year)	C-87 and D-51 Total Combined Emissions (tons/year)	Total Walton County Emissions[c] (tons/year)	Percent of Walton County Emissions
	C-87	D-51	C-87 and D-51			
CO	0.0177	0.0365	16.234	16.2882	42,937.8913	0.04
Lead	0.0026	0.0055	0	0.0081	0.0464	17.4
NO_x	0.0451	0.0930	22.871	23.0091	4,302.6215	0.53
PM_{10}	0.0586	0.1207	50.808	50.9873	6,507.3821	0.78
SO_2	0.0006	0.0012	0.034	0.0358	253.5369	0.01
VOCs	0.0005	0.0011	4.991	4.9926	45,014.4888	0.01

CO - carbon monoxide; NO_x - nitrogen oxides; SO_2 - sulfur dioxide; PM_{10} - particulate matter less than 10 microns in diameter; VOCs – volatile organic compounds (not a criteria pollutant)

[a] - Estimated using Composition B detonation emission factors developed by Wilcox et al. (1996). Ozone was consumed during every detonation test and, therefore, has no emission factor. NO_x emissions are based on emission factors for NO and NO_2

[b] - U.S. Air Force Air Conformity Applicability Model (ACAM), Version 5.0, 2014

[c] - Based on 2011 National Emissions Inventory (U.S. Environmental Protection Agency, 2014a)

Source: Author created

As indicated in **Table 3-4**, all estimated maximum annual TA C-87 and TA D-51 combined explosives training and infrastructure construction emissions of criteria pollutants and VOCs, except for lead, under Alternative 3 are less than 1 percent of the respective total annual Walton County emissions. As discussed for Alternative 1, the estimated maximum annual lead emissions for the combined test areas under Alternative 3 would be far below 10 percent of the total annual lead emissions of the applicable Air Quality Region, which includes 3 counties in Alabama, 10 counties in Florida, and 37 counties in Mississippi. At their expected generation levels, total annual TA C-87 and TA D-51 emissions under Alternative 3 are expected to be below the 25,000 metric tons of CO_{2e} which is the reference point suggested per revised draft CEQ guidance for quantitative analysis and disclosure of GHG emissions (CEQ, 2014).

Based on the analysis conducted, Alternative 3 would have a negligible impact on air quality. The impact would not be significant.

3.2 Noise

3.2.1 Affected Environment

Noise can be simply defined as unwanted sound. The impact of noise is influenced by the characteristics of the noise, such as the sound level, frequency (pitch), and duration, as well as the characteristics of the receptor (e.g., a person or animal). Sound levels are measured on a logarithmic scale in decibels (dB). Sound measurement may be further refined through the use of frequency “weighting”. Human hearing is most sensitive to sound frequencies within the range of 1,000 and 4,000 hertz (Hz). A-weighted measurements emphasize this frequency range and are expressed in terms of A-weighted decibels (dBA). In noise analyses, A-weighting is used when audible sound is the major concern, for example to assess noise generated by subsonic aircraft, construction, and traffic. C-weighted measurements do not attenuate lower frequencies and are expressed in terms of C-weighted decibels (dBC). C-weighting is used to assess low frequency, impulsive noise, such as the noise produced by explosions and sonic booms. Impulsive noise may be felt (overpressure) as well as heard. Low frequency, impulsive noise can also be measured in terms of peak sound pressure level (dBP), which is un-weighted.

The duration and frequency of noise events influence the overall impact of noise on receptors. Several metrics are used in noise assessments to account for these factors. For example, noise impacts on humans may be measured in terms of "Day-Night Average Sound Level" (DNL), which is the noise level averaged over a 24-hour day. This metric applies a 10-dB penalty to nighttime noise occurring between 10 pm and 7 am to account for the added intrusiveness of noise during these hours. C-weighted DNL (CDNL) is the 24-hour day-night averaged C-weighted sound level computed for areas subjected to low-frequency, impulsive noise. The yearly DNL is the yearly (365 days) day-night average sound level. The Air Force considers all land uses to be compatible with noise levels below 65 dB DNL, and noise-sensitive land uses such as residences to be conditionally compatible with noise levels between 65 and 70 dB DNL if the structure provides above-average noise attenuation. For impulsive noise, 62 dB CDNL is generally used as the threshold to determine residential land use compatibility and risk of human annoyance.

The effects of noise on humans include annoyance, sleep disturbance, and health impacts. A noise level of 140 dBP has been identified by the U.S. Occupational Safety and Health Administration (OSHA) as a maximum recommended unprotected exposure level necessary to prevent physiological damage to the human ear drum. Noise levels less than 115 dBP have been shown to cause minimal public annoyance and are considered to have a low risk of noise complaints and noise levels between 115 and 130 dBP are considered to have a medium risk of noise complaints (U.S. Army, 2007). The effects of noise on wildlife are less well understood. Behavioral effects, such as bird flight response, have been observed; however, direct physiological effects of noise on wildlife are difficult to measure In the field. Detonations conducted during explosive training are the primary sources of noise on TAs C-87 and D-51.

3.2.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 1 have the potential to generate high noise levels primarily during explosives training. As discussed in Section 3.2.1, noise levels of 140 dBP and 115 dBP are generally used as the "single event" noise thresholds for human hearing protection and complaint risk, respectively. In the absence of noise modeling, the approximate distance in ft from a detonation at which the associated 140 dBP contour occurs under a scenario of favorable weather conditions is commonly calculated using the following equation (Equation 1):

EQUATION 1*: Distance (in ft) of 140 dBP ≈ (600)^3√NEW (in TNT-equivalent lbs)*

Simply stated, the distance in ft of the 140 dBP noise contour from a detonation is approximately 600 times the cube root of the detonated item's NEW, where the item's NEW is expressed in trinitrotoluene (TNT)-equivalent lbs. Relative effectiveness factors have been developed for many explosives to relate their explosive power to that of TNT, and are used to calculate TNT equivalency. The relative effectiveness factor of C-4 is 1.34.

Unfavorable weather conditions with respect to noise impacts include high winds and temperature inversions. A temperature inversion occurs when warmer air is above cooler air, which creates atmospheric "stability" and inhibits vertical mixing. Temperature inversions usually occur at night or early morning. Almost every morning, ground-based inversions occur on Eglin AFB and break during the morning with surface heating (U.S. Air Force, 2005). Strong winds and temperature inversions can propagate noise levels beyond distances that the noise levels would otherwise occur under favorable weather conditions. Favorable weather conditions with respect to noise impacts can be easily identified using meteorological data that is routinely collected by Eglin's Weather Office to support testing/training operations.

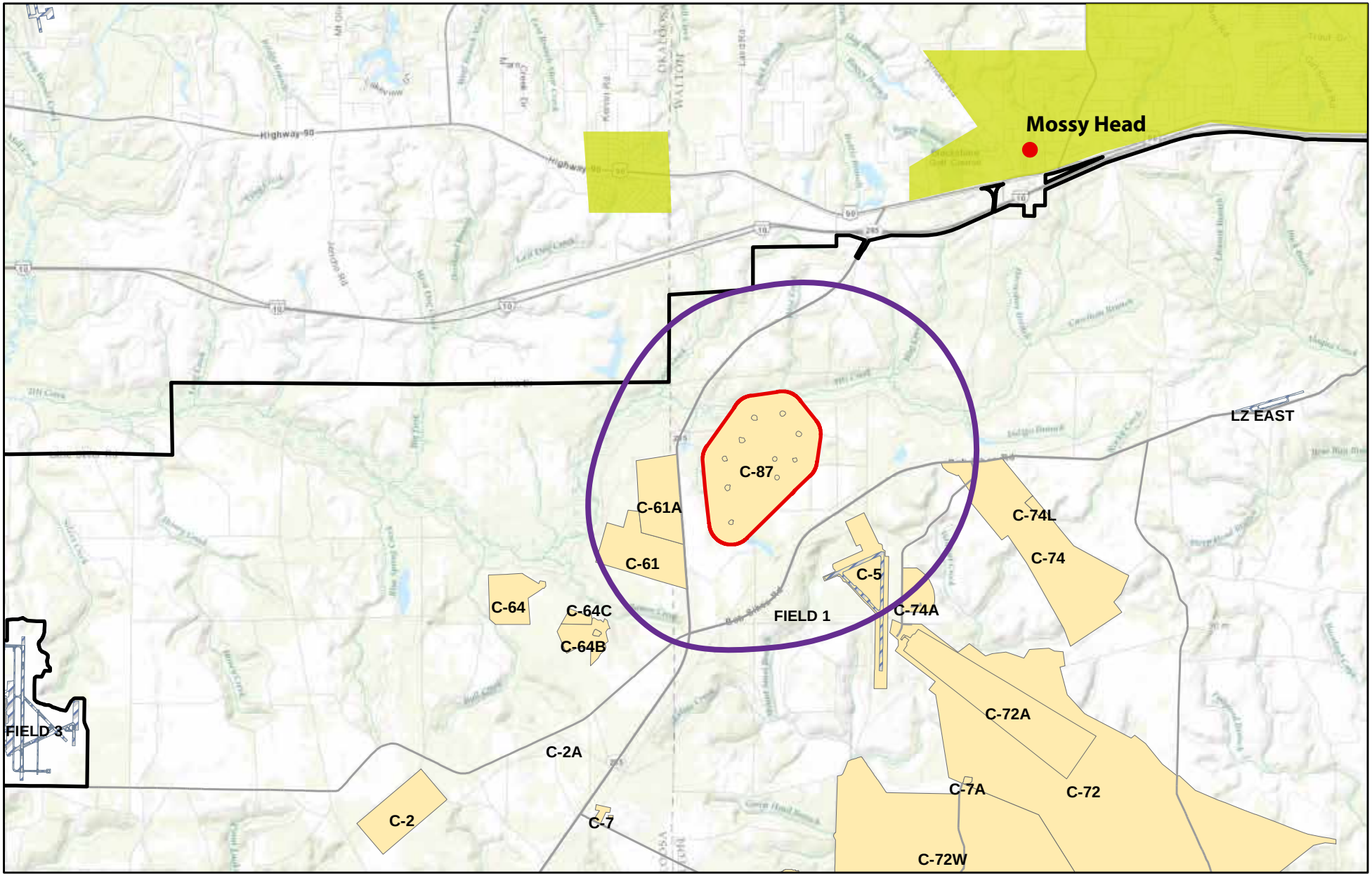
Test Area C-87

Current explosives training on TA C-87 involves up to 24 detonations per day of 0.15 to 2.5 lbs NEW using C-4 or Detcord for 30 weeks (5 days/week or 150 days) per year. Detonations of up to 35 lbs NEW (maximum) using C-4 are also conducted on practical training site H for up to 15 detonations per year (see Section 2.2.1). Therefore,

on TA C-87, a detonation of 35 lbs NEW of C-4 on site H would have the greatest potential single-event noise impact on the public. Using Equation 1 defined above, the approximate distance of the 140 dBP noise contour from a detonation of 35 lbs NEW of C-4 (46.9 TNT-equivalent lbs) under favorable weather conditions is 2,164 ft. Based on this estimation, under favorable weather conditions, noise levels of 140 dBP generated by a detonation of 35 lbs NEW of C-4 on site H would be contained well within the boundary of Eglin AFB and, therefore, would not result in potential hearing loss in the public outside Eglin AFB. Using Equation 1 defined above, the approximate distance of the 140 dBP noise contour from a detonation of 2.5 lbs NEW of C-4 (3.35 TNT-equivalent lbs) under favorable weather conditions is 898 ft. Based on this estimation, under favorable weather conditions, noise levels of 140 dBP generated by a detonation of 2.5 lbs NEW of C-4 on any of the other practical training sites (sites A through G) would be contained well within the boundary of Eglin AFB.

The 140 dBP noise contour of a detonation of 2.5 lbs NEW of C-4 on TA C-87 under unfavorable weather conditions and the 115 dBP noise contours of detonations of 2.5 lbs NEW of C-4 on TA C-87 under both favorable and unfavorable weather conditions were predicted in the 2002 TA C-87 EA (U.S. Air Force, 2002) using the Noise Assessment and Prediction System (NAPS) noise model. The 2002 TA C-87 EA predicted that under unfavorable weather conditions (high winds and temperature inversion), associated noise levels of 140 dBP would be contained well within the boundary of Eglin AFB and, therefore, would not result in potential hearing loss in the public. The 2002 TA C-87 EA predicted that under favorable weather conditions, the 115 dBP noise contour that would be associated with detonations of 2.5 lbs NEW at all practical training sites combined would extend only slightly outside the boundary of Eglin AFB (**Figure 3-1**). Based on a review of 2014 land use maps, there are no residences in the area outside of Eglin into where the associated 115 dBP contour is predicted to extend; therefore, single-event (individual) detonations of 2.5 lbs NEW on TA C-87 under favorable weather conditions are not expected to result in adverse noise annoyance impacts on the public. Moreover, the noise modeling did not take into consideration the surrounding forests, which reduce the overall noise produced during detonations. Under unfavorable weather conditions, 115 dBP noise levels were predicted by the model to extend into some low-density residential areas just outside the boundary of Eglin near the community of Mossy Head, which is located approximately 3.2 miles from the nearest practical training site. Based on the modeling results for detonations of 2.5 lbs NEW, detonations of 35 lbs NEW on site H have the potential to produce noise levels of 115 dBP in the nearest residential areas under both favorable and unfavorable weather conditions. Although detonations of 35 lbs NEW are authorized for site H for up to 15 times a year, detonations on the site H are typically much less than 35 lbs NEW. As standard practice, NAVSCOLEOD coordinates with Eglin's Weather Office prior to explosives training on TA C-87 to determine if weather conditions are favorable. This measure minimizes the potential for adverse noise annoyance impacts on the public. Any detonations on site H that exceed 2.5 lbs NEW are conducted under favorable weather conditions to minimize potential noise annoyance impacts on the public.

As discussed previously, 62 dB CDNL is the 24-hour day-night averaged impulsive noise level generally used as the "continuous" noise threshold to determine residential land use compatibility and risk of human annoyance. The 62 dB CDNL contour was not predicted as part of the noise modeling conducted for the 2002 TA C-87 EA. Given that current explosives training on TA C-87 involving detonations of 0.15 to 2.5 lbs NEW is conducted for only 150 days per year and only during daytime, current baseline explosive training activity on TA C-87 is not expected to result in adverse continuous noise impacts on the public. Detonations of 35 lbs NEW on site H are not expected to have adverse continuous noise impacts on the public given that the maximum frequency of such detonations are only 15 times per year and the minimum time interval between each detonation is at least two weeks.



Source of Noise Contour: U.S. Air Force, 2002

FIGURE 3-1
115 dBP Noise Contour for 2.5 lb NEW Detonations at All Practical Training Sites on Test Area C-87 Under Favorable Weather Conditions
Test Areas C-87 and D-51 REA

In summary, based on the overall analysis conducted, baseline explosives training activity on TA C-87 under Alternative 1 does not result in hearing loss or in adverse single-event or continuous noise annoyance impacts on the public.

Test Area D-51

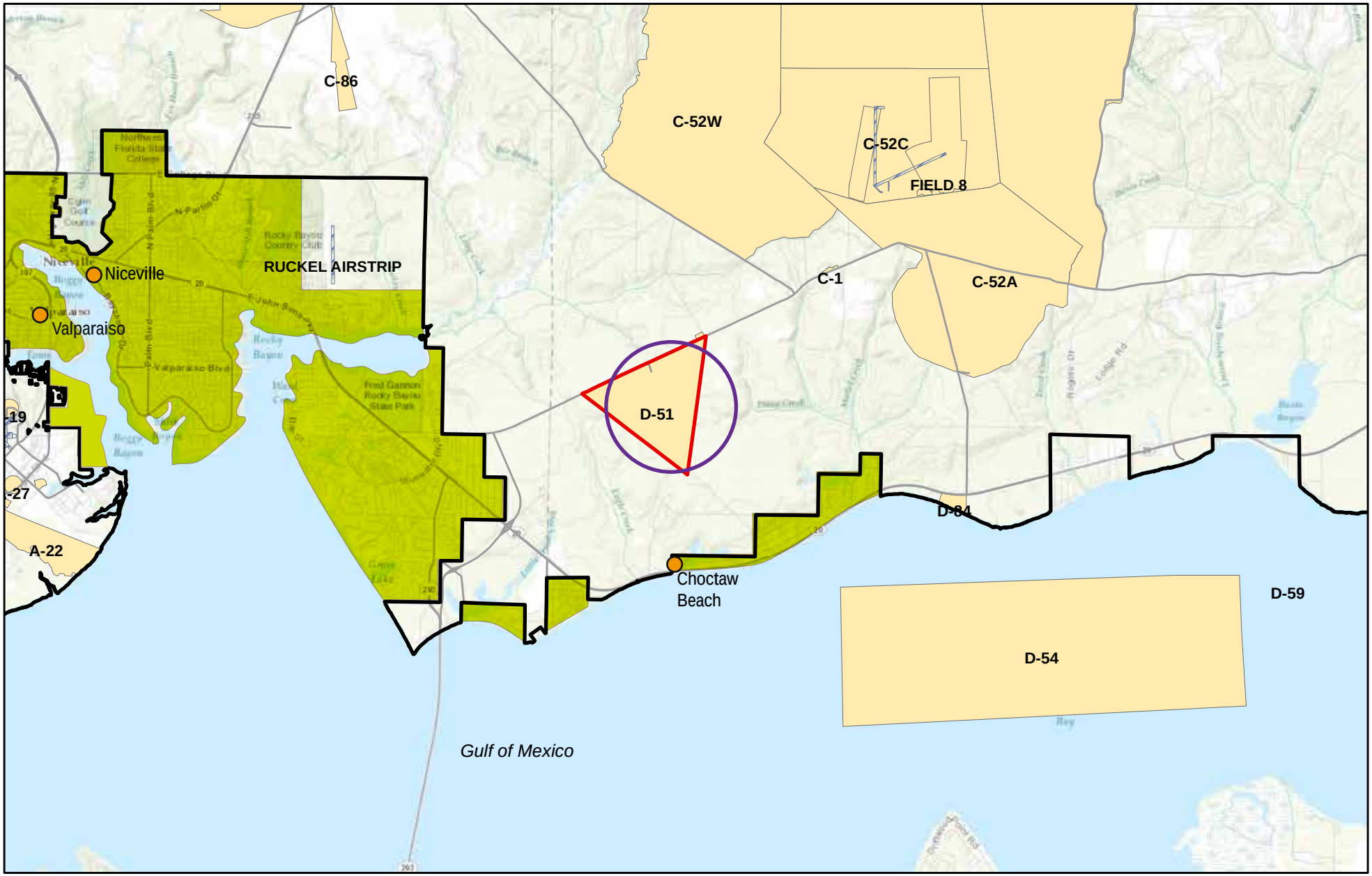
On TA D-51, a detonation of 1.5 lbs NEW of C-4 on the Demolition Range would have the greatest potential single-event noise impact on the public. Based on a review of 2014 land use maps, the nearest residential communities to the Demolition Range are located in Choctaw Beach, approximately 2 miles to the south, and those located near the City of Niceville, approximately 2.3 miles to the southwest.

The 140 dBP and 115 dBP noise contours of a detonation of 1.25 lbs NEW of C-4 on TA D-51 under favorable weather conditions were predicted in the 2008 TA D-51 EA (U.S. Navy, 2008) using the NAPS noise model. The amount of NEW modeled is only slightly less than the maximum amount of NEW currently detonated on the test area (1.5 lbs NEW); therefore, the modeled noise contours should closely resemble the noise contours associated with current detonations. The 2008 TA D-51 EA predicted that associated noise levels of 140 dBP extend out approximately 150 meters (492 ft) from the detonation point on the Demolition Range. Accordingly, under favorable weather conditions, associated noise levels of 140 dBP would be contained within the boundary of TS D-51 and would not result in potential hearing loss in the public outside Eglin AFB. The 2008 TA D-51 EA predicted that under favorable weather conditions, the associated 115 dBP noise contour would be contained well within the boundary of Eglin AFB (**Figure 3-2**); therefore, single-event (individual) detonations on TA D-51 under favorable weather conditions are not expected to result in adverse noise annoyance impacts on the public. Although a scenario of unfavorable weather conditions was not modeled in the 2008 TA D-51 EA, associated 140 dBP noise levels are not expected to extend outside the boundary of Eglin AFB based on the very low NEW of the detonations (1.5 lbs) and the typical weather conditions that occur in the area (outside of calm days), which direct noise northward further into Eglin AFB and not southward toward the nearest residential areas (U.S. Navy, 2008). Given that the associated 115 dBP contour is larger, noise levels of 115 dBP are considered to have the potential to extend into the nearest residential communities during unfavorable weather conditions. As standard practice, NAVSCOLEOD coordinates with Eglin's Weather Office prior to explosives training on TA D-51 to determine if weather conditions are favorable. This measure along with the typical tendency for noise levels to be directed northward during unfavorable weather conditions in the area minimizes the potential for adverse noise annoyance impacts on the public.

As discussed previously, 62 dB CDNL is the 24-hour day-night averaged impulsive noise level generally used as the "continuous" noise threshold to determine residential land use compatibility and risk of human annoyance. The 2008 TA D-51 EA predicted that the nearest residential communities would experience 35 dB CDNL based on 25 detonations per day of 1.25 lbs NEW of C-4. Given that the maximum amount of NEW currently detonated on the Demolition Range (1.5 lbs NEW) is only slightly greater and the current number of daily detonations is the same as those considered in the 2008 TA D-51 EA, current baseline explosive training activity on the Demolition Range at TA D-51 is not expected to result in adverse continuous noise impacts on the public. Total daily detonations of small charges (average NEW = 0.07 lb) in the TMD and IED Training Areas would have a negligible contribution to continuous noise.

In summary, based on the overall analysis conducted, baseline explosives training activity on TA D-51 under Alternative 1 does not result in hearing loss or in adverse single-event or continuous noise annoyance impacts on the public.

Based on the analysis conducted, Alternative 1 has a minor noise impact on the public. The impact is not significant.



Source of Noise Contour: U.S. Air Force, 2008

FIGURE 3-2
115 dBP Noise Contour for 1.25 lb NEW Detonation on Test Area D-51 Under Favorable Weather Conditions
Test Areas C-87 and D-51 REA

Alternative 2

Foreseeable future NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 2 have the potential to generate high noise levels primarily during explosives training and during infrastructure construction. Foreseeable future explosives training on TAs C-87 and D-51 under Alternative 2 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the new trainings sites/areas proposed to be constructed on each test area. Under Alternative 2, some of the 24 daily detonations of 0.15 to 2.5 lbs NEW currently conducted at the nine existing practical training sites on TA C-87 would be conducted at the four new advanced IED practical training sites and six new post-blast practical training sites once they are operational (see **Figure 2-4**). Given that the proposed new practical training sites would be adjacent to the existing sites, the potential noise impacts associated with explosives training on TA C-87 under Alternative 2 would be the same as those under Alternative 1. Under Alternative 2, some of the 25 daily detonations of small charges (average NEW = 0.07 lb) currently conducted in the TMD and IED Training Areas on TA D-51 would be detonated in the new WMD Training Area once it is operational (see **Figure 2-3**); there would be no location change in the 25 daily detonations of 1.5 lbs NEW currently conducted in the Demolition Range. Given that the proposed new WMD Training Area is very close to the TMD and IED Training Areas, and that detonations of the small charges have a negligible contribution to overall explosive training noise on the test area, the potential noise impacts associated with explosives training on TA D-51 under Alternative 2 would be the same as those under Alternative 1.

Under Alternative 2, foreseeable future infrastructure construction on TAs C-87 and D-51 would temporarily increase ambient noise levels in and around the construction sites. The increased noise levels would be intermittent and limited to normal working hours and the overall construction period. Based on data presented in USEPA publication, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (USEPA, 1971), the main phases of outdoor construction typically generate noise levels that range from 78 dBA to 89 dBA, approximately 50 ft from the construction site (**Table 3-5**).

TABLE 3-5
Typical Noise Levels Associated with Main Phases of Outdoor Construction
Test Areas C-87 and D-51 REA

Construction Phase	Noise Level at 50 Feet (dBA)
Ground Clearing	84
Excavation, Grading	89
Foundations	78
Structural	85
Finishing	89

dBA – A-weighted decibel
Source: USEPA, 1971

When distance is the only factor considered (free-field conditions), noise levels are estimated to decrease by approximately 6 dBA with every doubling of distance from a noise source; the presence of obstructions such as vegetation can further decrease noise levels with increasing distance. Therefore, under free-field conditions, the higher noise levels estimated to be associated with construction (89 dBA) can be expected to decrease to approximately 65 dBA at 800 ft from the construction site. Given that the nearest residential areas are located approximately 3.2 miles and 2 miles, respectively, from TAs C-87 and D-51, the infrastructure construction projects proposed under Alternative 2 are not expected to have any adverse noise impacts on the public. Any construction noise that is audible in residential areas is expected to be perceived as faint and/or distant, and would be heard only during daytime and only over the duration of the construction period.

Based on the analysis conducted, Alternative 2 would have a minor noise impact on the public. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Therefore, infrastructure construction noise levels under Alternative 3 would be the same as those under Alternative 2 and TA C-87 explosives training noise levels under Alternative 3 would be the same as those under Alternative 1 (and Alternative 2).

Under Alternative 3, mission-surge explosives training activity on TA D-51 would involve a 100 percent increase in the number of Alternative 1 detonations of 1.5 lbs NEW and Alternative 1 detonations of small charges (average NEW = 0.07 lb). Given that the maximum NEW detonation on TA D-51 would continue to be 1.5 NEW of C-4, Alternative 3 would have the same single-event noise impacts as Alternative 1 (and Alternative 2), which based on the analysis, would not involve potential hearing loss or adverse noise annoyance impacts on the public. Given how low the predicted continuous noise levels associated with baseline training activity are in the nearest residential communities (35 dB CDNL), mission-surge explosive training activity under Alternative 3 is not expected to result in adverse continuous noise impacts on the public.

Based on the analysis conducted, Alternative 3 would have a minor noise impact on the public. The impact would not be significant.

3.3 Soils

3.3.1 Affected Environment

Soil consists of varying amounts of mineral particles and organic matter. It serves as a medium for plant growth and water storage, and as habitat for certain types of organisms. Soils are formed by numerous physical, chemical, and biological processes, which include weathering of parent material, accumulation of organic matter, and biochemical leaching or reduction of minerals. Soil erosion is the process by which soil is removed from a given location by wind or water flow, and then transported to other locations.

The Eglin AFB Integrated Natural Resources Management Plan (INRMP) (U.S. Air Force, 2012) provides information on the primary soil types that occur on Eglin AFB. The soils on Eglin AFB originated from the Citronelle Formation as well as from alluvium deposition from low lying areas (U.S. Air Force, 2012). The majority of soils on Eglin AFB and all the soils on TAs C-87 and D-51 belong to the Lakeland soil association. Lakeland soils are excessively drained and sandy to a depth of 80 inches or more.

3.3.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 1 have the potential to impact soils primarily via emissions released during explosives training. Explosives and non-explosives training on TAs C-87 and D-51 results in negligible physical impacts on soils. None of the detonations conducted on either test area produce blast fragmentation; all detonations result only in release of air emissions (explosives residue). Detonations on the practical training sites on TA C-87 are conducted on paved surfaces and, therefore, do not result in physical disturbance to soils. Detonations in the TMD and IED Training Areas on TA D-51 are conducted inside thick wooden structures located within blast-pits and, therefore, do not physically disturb soils. Detonations on the Demolition Range on TA D-51 are conducted on unpaved (dirt) ground surface. Each detonation results in a minor amount of soil disturbance at the detonation location. These small areas of disturbed soil are temporary and do not contribute to soil erosion as the surface of the Demolition Range is regularly leveled and compacted by grading equipment. Personnel foot traffic and use of miscellaneous equipment in outdoor explosives and non-explosives training areas on TAs C-87 and D-51 result in negligible soil disturbance and have very low potential to result in soil erosion. All personnel involved in training operations on

TAs C-87 and D-51 are required to minimize soil disturbance and erosion per the measures identified in EAFBI 13-212, *Range Planning and Operations*, and in other applicable Eglin range operation documents.

As discussed in Section 3.1.2, approximately 91 percent of C-4 is RDX. RDX that is released during detonations of C-4 on TAs C-87 and D-51 has the potential to deposit on soils. RDX that is released during detonations of C-4 exists in particulate form in air prior to deposition. Some photo-degradation (phytolosis) of RDX in air is expected prior to deposition as RDX is known to absorb ultraviolet wavelengths between 240 and 350 nanometers (U.S. Army, 1986). RDX in soil undergoes biodegradation, primarily under anaerobic conditions (Funk et al., 1993; Pennington and Brannon, 2002; U.S. Army, 1984). A study by Sheremata et al. (2001) showed that RDX completely disappeared within 5 weeks in natural topsoil and only traces of RDX were mineralized to CO_2 and nitrous oxide by microorganisms in the soil. The USEPA human-health risk (soil-industrial) Regional Screening Level (RSL) for RDX in soil is 24 mg/kg (USEPA, 2014b). The estimated background concentration of RDX in surface soil at Eglin AFB is 8.84 mg/kg. Based on the types and sizes of the detonations conducted on TAs C-87 and D-51, the associated RDX deposition on soil is largely confined within the boundaries of the test areas. Although some RDX may be dispersed in air beyond the boundaries of the test areas under high wind conditions, the majority of the released RDX under most conditions deposits on soils that exist on and in the immediate vicinity of the detonations, i.e., soils on the practical training sites on TA C-87 and soils on the Demolition Range on TA D-51. Little to no RDX is deposited on soils in the TMD or IED Training Areas on TA D-51 as detonations in these areas are conducted inside thick wooden structures located within blast pits. Given that RDX deposition is largely confined within the boundaries of the test areas and RDX's biodegradation potential in soil, baseline explosives training on TAs C-87 and D-51 under Alternative 1 is not expected to have significantly adverse impacts on soils.

Based on the analysis conducted, Alternative 1 has a minor impact on soils. The impact is not significant.

Alternative 2

Foreseeable future NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 2 have the potential to impact soils primarily via emissions released during explosives training and via disturbance during infrastructure construction. Explosives and non-explosives training on TAs C-87 and D-51 under Alternative 2 would result in negligible physical/erosion impacts on soil as discussed for Alternative 1. The projected decrease in the annual student population who receive basic EOD training on TA D-51 under Alternative 2 (see Section 2.2.2) would not result in a discernible difference in potential physical/erosion soil impacts on TA D-51 compared to Alternative 1. Foreseeable future explosives training on TAs C-87 and D-51 under Alternative 2 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the new trainings sites/areas proposed to be constructed on each test area (see Section 2.2.2). Therefore, TA C-87 and TA D-51 detonation-related soil impacts under Alternative 2 would be the same as those under Alternative 1.

Soils within the footprints of the buildings, practical training sites, and other infrastructure proposed to be constructed on TAs C-87 and D-51 under Alternative 2 would be disturbed via excavation and in some cases application of pavement/concrete. Construction activities would be coordinated with the 96 CEG/CEIEA and appropriate BMPs and erosion/sedimentation controls would be implemented during construction to minimize potential direct and indirect impacts on soils.

Based on the analysis conducted, Alternative 2 would have a minor impact on soils. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Therefore, construction-related soil impacts under Alternative 3 would be the same as those under Alternative 2 and TA C-

87 training-related soil impacts under Alternative 3 would be the same as those under Alternative 1 (and Alternative 2).

Alternative 3 would involve a 100 percent increase in the current annual student population who receive basic EOD training on TA D-51. The associated increase in personnel foot traffic and use of miscellaneous equipment in outdoor explosives and non-explosives training areas on TA D-51 would result in a negligible increase in overall soil disturbance and soil erosion potential on the test area compared to Alternative 1. All personnel involved in training operations on TAs C-87 and D-51 would be required to minimize soil disturbance and erosion per the measures identified in EAFBI 13-212, *Range Planning and Operations*, and in other applicable Eglin range operation documents. Under Alternative 3, mission-surge explosives training activity on TA D-51 would involve a 100 percent increase in the number of Alternative 1 detonations of 1.5 lbs NEW and Alternative 1 detonations of small charges (average NEW = 0.07 lb). Although the amount of overall RDX deposition on soil would increase under Alternative 3, RDX deposition on soil would still be largely confined within the boundary of TA D-51. As under Alternative 1, the majority of the released RDX under most conditions would deposit on soils on the Demolition Range. Given that RDX deposition would still be largely confined within the boundary of TA D-51 and RDX's biodegradation potential in soil, mission-surge explosives training on TA D-51 under Alternative 3 is not expected to have significantly adverse impacts on soils.

Based on the analysis conducted, Alternative 3 would have a minor impact on soils. The impact would not be significant.

3.4 Water Resources

3.4.1 Affected Environment

Wetlands

USACE and USEPA jointly define wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands have many important ecosystem functions including providing habitat for aquatic and terrestrial organisms, protecting other areas from wave action and erosion, filtering and purifying surface waters, serving as storage areas for flood waters, and recharging groundwater.

EO 11990, *Protection of Wetlands* (signed May 24, 1977) directs Federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The 96 CEG/CEIEA has primary responsibility for wetland protection, including evaluation of potential wetland impacts by proposed actions, at Eglin AFB. The Eglin AFB INRMP (U.S. Air Force, 2012) includes guidance on the management and protection of wetlands at Eglin AFB.

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. Under the federal Section 404 program, no discharge of dredged or fill material may be permitted if a practicable alternative exists that is less damaging to the aquatic environment, or if the nation's waters would be significantly degraded. The Section 404 program is jointly administered by USEPA and USACE; USACE is responsible for Section 404 permit decisions. Under Section 404(b)(1) of the CWA, permit applicants are required to show that they have, to the extent practicable, taken steps to avoid impacts to wetlands/waters, minimized potential impacts to wetlands/waters once they have avoided impacts, and then, provide compensatory mitigation for any remaining unavoidable impacts. Section 10 of the Rivers and Harbors Act grants USACE permitting jurisdiction for structures or works in or affecting navigable waters of the U.S.

The State of Florida regulates wetlands through the Environmental Resource Permit (ERP) program. The ERP program is in effect statewide and is implemented jointly by the FDEP and the State's five Water Management Districts under operating agreements that provide a division of responsibilities between the agencies. Activities regulated by the ERP program include dredging and filling in most surface waters and wetlands connected to

Waters of the State, and activities in uplands such as construction that increase impervious surfaces and stormwater runoff. In Florida, ERP Permits and federal Section 404 (Dredge and Fill) Permits are reviewed in a joint application. The federal Section 404 Permit cannot be issued without the State's Section 401 Water Quality Certification or Coastal Zone Consistency Concurrence.

Wetlands that are primarily associated with stream floodplains exist just inside the northern, southern, and eastern boundaries of TA C-87 (**Figure 3-3**). There are no wetlands on TA D-51; the nearest wetlands are located outside the northern, eastern, and western boundaries of the test area (**Figure 3-4**).

Floodplains

EO 11988, *Floodplain Management* (signed May 24, 1977) directs Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. The 96 CEG/CEIEA has primary responsibility for floodplain protection, including evaluation of potential floodplain impacts by proposed actions, at Eglin AFB.

A 100-year flood is defined as a flood that has a one percent chance of being equaled or exceeded in magnitude in any given year. The 100-year floodplain is the area covered by water in the event of a 100-year flood. 100-year floodplains exist just inside the northern boundary of TA C-87 (see **Figure 3-3**). There are no 100-year floodplains on TA D-51; the nearest 100-year floodplains are located outside the northern and eastern boundaries of the test area (see **Figure 3-4**).

Surface Water

Surface water bodies on TA C-87 primarily include streams located just inside the northern, southern, and eastern boundaries of the test area (see **Figure 3-3**). A portion of a pond also exists in the southern part of TA C-87. There are no surface water bodies on TA D-51; the nearest surface water bodies are streams located outside the northern, eastern, and western boundaries of the test area (see **Figure 3-4**).

The 96th Civil Engineer Group/Compliance (96 CEG/CEIEC) has primary responsibility for the management of water quality at Eglin AFB. Per the CWA, the State of Florida classifies surface waters according to their designated uses. The streams on/near TAs C-87 and D-51 are classified as *Class III - Fish Consumption, Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife*.

In addition to dredging and filling in wetlands and surface waters, Florida's ERP program regulates activities in uplands that generate stormwater runoff or otherwise alter surface water flows. Per these regulations, activities that increase the imperviousness of a given area require an ERP Permit from FDEP, unless they qualify to be exempted. Affected areas less than 4,000 ft^2 are exempt from permitting; however, fragmenting a contiguous area that exceeds 4.000 ft^2 is not allowed. Activities that increase the imperviousness of an area include physical compaction of the area, application of materials to the area, or paving of the area.

In Florida, stormwater discharges that are associated with construction projects that disturb one or more acres of land are regulated under the FDEP National Pollution Discharge Elimination System (NPDES) *Generic Permit for Stormwater Discharge from Large and Small Construction Activities* (stormwater construction permit). An associated Stormwater Pollution Prevention Plan (SWPPP) is required to be developed and implemented as part of the stormwater construction permit.

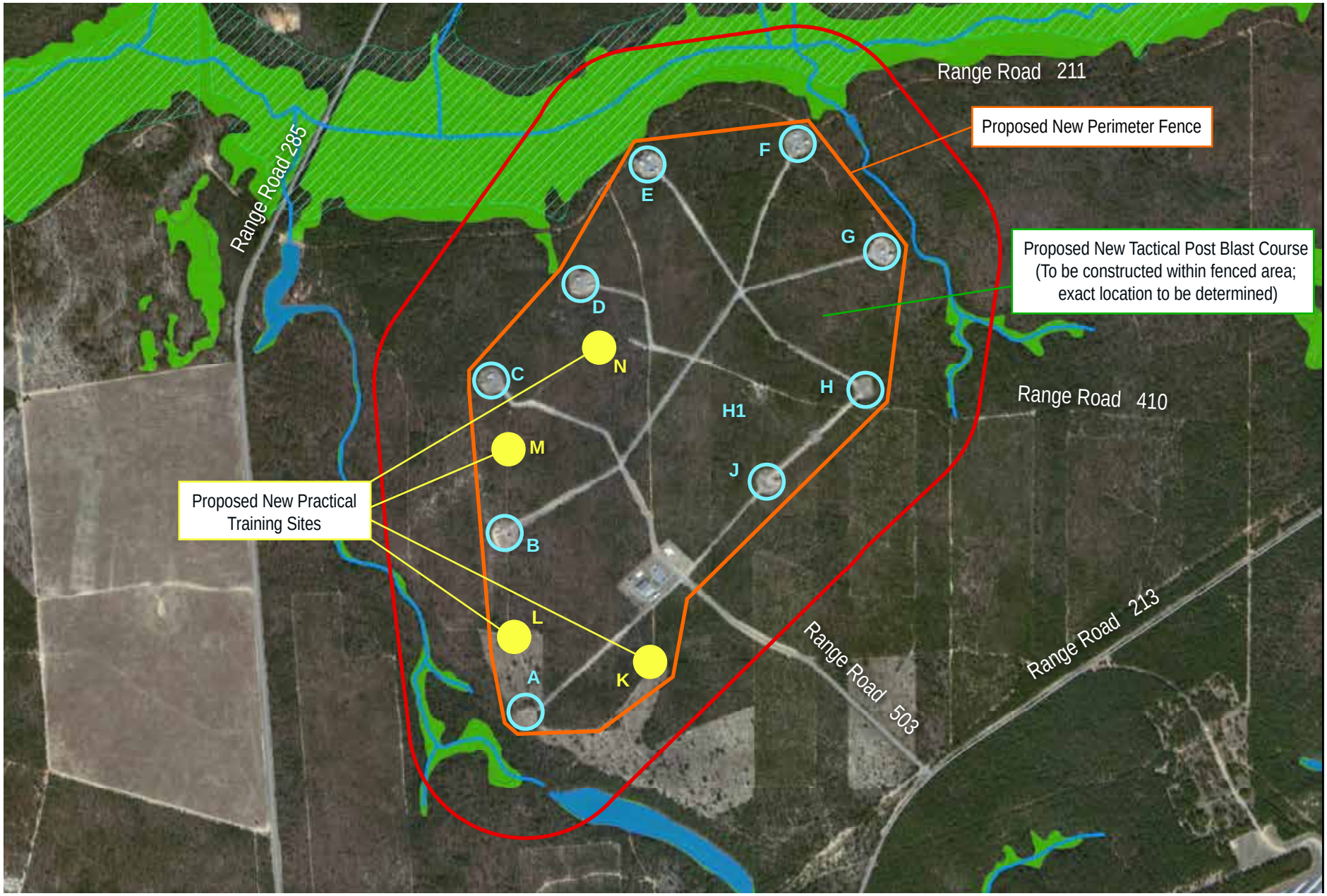


FIGURE 3-3
Test Area C-87 Water Resources
Test Areas C-87 and D-51 REA

FIGURE 3-4
Test Area D-51 Water Resources
Test Areas C-87 and D-51 REA

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Groundwater

Groundwater is water that occupies the pore spaces in subsurface rocks and sediments. Groundwater under Eglin AFB occurs in two major aquifer systems: the surficial aquifer (also known as the sand and gravel aquifer) and the Floridan Aquifer. The surficial aquifer consists primarily of fine to course sand and gravel. Water within this unit is generally unconfined, i.e., free to rise and fall. The surficial aquifer is not a primary water supply source at Eglin AFB; however, water is drawn from it by certain on-base wells (U.S. Air Force, 2012). The surficial aquifer is separated from the underlying confined Floridan Aquifer by the low-permeability Pensacola Clay confining bed. The Floridan Aquifer consists of a thick sequence of inter-bedded limestone and dolomite. It is the primary water supply source at Eglin AFB. The top of the Floridan Aquifer ranges from approximately 50 ft below mean seal level (msl) in the northeastern corner of Eglin AFB to approximately 700 ft below msl in the southwestern part of the Base (McKinnon and Pratt, 1998).

3.4.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 1 have the potential to impact water resources primarily via emissions released during explosives training. Outdoor explosives and non-explosives training activities on TAs C-87 and D-51 are conducted only in the designated upland and paved training areas on the test areas; therefore, they have no potential to directly physically impact onsite (TA C-87 only) or offsite wetlands or surface waters. As discussed in Section 3.3.2, outdoor explosives and non-explosives training on TAs C-87 and D-51 has very low potential to cause soil erosion; therefore, indirect impacts on wetlands and surface waters via soil erosion are not expected.

As discussed in Section 3.1.2, approximately 91 percent of C-4 is RDX. The potential for explosives training on TA D-51 to result in RDX deposition on wetlands and surface waters is considered to be very low as no wetlands or surface waters exist on the test area and those nearest the test area are located considerably far from the explosives training areas. Explosives training on TA C-87 can be expected to result in some RDX deposition on wetlands and surface waters, primarily on those that occur nearest the practical training sites. Although some RDX deposition on these wetlands and surface waters may occur, associated adverse impacts on these systems are not expected based on published environmental fate and transport information on RDX. As discussed in Section 3.3.2, RDX that is released during detonations of C-4 is expected to undergo some photo-degradation (phytolosis) in air prior to deposition. RDX in soil undergoes biodegradation primarily under anaerobic conditions (Funk et al., 1993; Pennington and Brannon, 2002; U.S. Army, 1984). Given that wetland soils are predominately anaerobic, any RDX that is deposited onto wetland soils would biodegrade. In water, RDX undergoes rapid photo-degradation (photolysis) and is estimated to have a half-life of 9 to 13 hours (U.S. Army, 1980; 1986). The solubility of RDX in water is low to negligible (Budavari and O'Neil, 1989) and the potential for RDX to adsorb to sediment and particulate matter in the aquatic environment is relatively low (U.S. Army, 1980). Experimental data indicate that RDX has low potential to bio-concentrate in aquatic organisms (PHYSPROP, 2009; U.S. Army, 1984). Based on RDX's known behavior in anaerobic soils and aquatic environments, baseline explosives training on TA C-87 under Alternative 1 is not expected to adversely impact wetlands or surface waters via RDX deposition.

RDX has moderate to high mobility in soil (Swann et al., 1983) and, therefore, has the potential to migrate through the soil column and potentially reach groundwater. The potential for RDX to reach groundwater is dependent on several factors, including the concentration and biodegradation rate of RDX in soil, and the depth to groundwater. Although RDX has the potential to reach the groundwater table under TAs C-87 and D-51, it is not expected to adversely impact groundwater quality based on groundwater sampling conducted on TA C-52N on Eglin AFB. Groundwater sampling is routinely conducted on TA C-52N under the requirements of Eglin's RCRA Part B Subpart X Permit for open detonations conducted by NAVSCOLEOD on that test area. Groundwater samples have consistently indicated that concentrations of RDX and other explosives constituents in groundwater on TA C-52N do not exceed applicable regulatory criteria. The annual amounts of RDX used on TA

C-52N far exceed those used on TAs C-87 and D-51 combined; therefore, baseline explosives training on TAs C-87 and D-51 is not expected to adversely impact groundwater.

Based on the analysis conducted, Alternative 1 has a negligible impact on water resources. The impact is not significant.

Alternative 2

Foreseeable future NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 2 have the potential to impact water resources primarily via emissions released during explosives training and via stormwater runoff during infrastructure construction. Foreseeable future explosives training on TAs C-87 and D-51 under Alternative 2 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the new trainings sites/areas proposed to be constructed on each test area (see Section 2.2.2). This change would have no discernible effect on impact potential; therefore, TA C-87 and TA D-51 detonation-related water resources impacts under Alternative 2 would be the same as those under Alternative 1.

Foreseeable future infrastructure construction on TAs C-87 and D-51 would have no direct impacts on water resources. As shown on **Figures 3-3** and **3-4**, none of the sites where new infrastructure is proposed to be constructed on TAs C-87 and D-51 are located within wetlands, surface waters, or 100-floodplains. Therefore, construction of the proposed infrastructure on the test areas would not result in any loss of wetland, surface water, or 100-year floodplain area. A federal Section 404 (Dredge and Fill) Permit from USACE would not be required nor would compensatory wetland mitigation. Construction activities would be coordinated with the 96 CEG/CEIEA and appropriate BMPs and erosion/sedimentation controls would be implemented during construction to minimize potential indirect impacts on nearby wetlands and surface waters.

The proposed infrastructure construction on TAs C-87 and D-51 would not involve withdrawals from, or discharges to, groundwater. Any dewatering necessary during construction would have no effect on groundwater quality or flow. The proposed infrastructure projects would result in a net increase in impervious area. The amounts of impervious area estimated to be created by infrastructure construction on the test areas under Alternative 2 are presented in **Table 3-6**.

TABLE 3-6
Amounts of Impervious Area Estimated to be Created by Infrastructure Construction on Test Areas C-87 and D-51 Under Alternative 2
Test Areas C-87 and D-51 REA

Infrastructure	Total Construction Footprint (Acres)	Total Impervious Area (Acres)	Comments
Test Area C-87			
Four Practical Training Sites	6.5	3.3	Assumes 50 percent of each practical training site would be paved
Perimeter Security Fence	9.2	0	Assumes impervious area is limited to fence posts, which have a negligible footprint
Tactical Blast Course	0.5	0.5	
Total		3.8	
Test Area D-51			
Nine WMD Practical Training Sites	4.0	4.0	
Building in Facilities Compound	0.1	0	Site is already impervious (paved)
Auditorium	0.6	0	Site is already impervious (paved)
Physical Training Field	12.5	0	Site will remain pervious (dirt surface)
Field House	0.3	0.3	
Boneyard Renovation	3.5	3.2	Site is already partially impervious (paved)
Total		7.5	
Total for Test Areas C-87 and D-51		**11.3**	

Source: Author created

As indicated in **Table 3-6**, foreseeable future infrastructure construction on TAs C-87 and D-51 is estimated to create approximately 3.8 acres and 7.5 acres of impervious area, respectively, or a combined total of approximately 11.3 acres of impervious area. The total impervious area created on the test areas would be a little more than 11.3 acres when miscellaneous ancillary infrastructure (access roads, utilities, etc.) associated with the projects is considered. Per Florida's ERP stormwater regulations, activities that create more 4,000 ft^2 (0.09 acre) of impervious area require an ERP Permit from FDEP (see Section 3.4.1). Therefore, some of the proposed projects would require an ERP Permit for the impervious area and associated stormwater runoff potential that would be created. No compensatory mitigation would be required for increases in impervious area; however, the Navy would be required to comply with FDEP regulations regarding post-condition stormwater runoff discharge rates for the increase in impervious area. The types of new stormwater management systems (e.g., ditches and culverts) or modifications to existing systems that would be required for infrastructure would be determined during the design and permitting phases of the projects. In addition to the ERP Permit, the Navy would be required to obtain a FDEP NPDES stormwater construction permit and implement an associated SWPPP for the construction projects under Alternative 2 that would disturb one or more acres of land (see Section 3.4.1). The BMPs and erosion/sedimentation controls that would be implemented for the projects would be discussed in the SWPPP.

Based on the analysis conducted, Alternative 2 would have a minor impact on water resources. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Therefore, construction-related impacts on water resources under Alternative 3 would be the same as those under Alternative 2 and TA C-87 training-related impacts on water resources under Alternative 3 would be the same as those under Alternative 1 (and Alternative 2).

Alternative 3 would involve a 100 percent increase in the current annual student population who receive basic EOD training on TA D-51. The associated increase in personnel foot traffic and use of miscellaneous equipment in outdoor explosives and non-explosives training areas on TA D-51 would result in a negligible increase in overall soil erosion potential on the test area compared to Alternative 1; therefore, indirect impacts on wetlands and surface waters via soil erosion are not expected. Under Alternative 3, mission-surge explosives training activity on TA D-51 would involve a 100 percent increase in the number of Alternative 1 detonations of 1.5 lbs NEW and Alternative 1 detonations of small charges (average NEW = 0.07 lb). Although the amount of detonations would increase, the overall potential for explosives training on TA D-51 to result in RDX deposition on wetlands and surface waters would still be low as no wetlands or surface waters exist on the test area and those nearest the test area are located considerably far from the explosives training areas.

Based on the analysis conducted, Alternative 3 would have a minor impact on water resources. The impact would not be significant.

3.5 Biological Resources

3.5.1 Affected Environment

Vegetation

Eglin AFB has 34 distinct natural vegetative communities; these communities fall into the following four broad ecological associations: sandhill matrix, flatwoods matrix, barrier island matrix, and wetland/riparian matrix (U.S. Air Force, 2012). The sandhill matrix is by far the most extensive natural community type on Eglin AFB, accounting for approximately 80 percent of the total area of the Base. This upland community has a canopy dominated by longleaf pine, a sparse midstory of oaks and other hardwoods, and a ground layer covered by a

high diversity of herbaceous species. The sandhill community is highly adapted to, and dependent on fire, which maintains its vegetative structure and composition. Further information on the natural vegetative communities that occur on Eglin AFB can be found in the Eglin AFB INRMP (U.S. Air Force, 2012).

Most of the area within the boundary of TA C-87 is classified as sandhill. Wetland/riparian communities exist in the northern, southern, and eastern parts of TA C-87, and small patches of flatwoods exist in the northern and southern parts of the test area. The entire area within the boundary of TA D-51 is classified as open grasslands/shrublands, which is a disturbed community type that occurs on active ranges. Open grasslands/shrublands were originally natural sandhills; they consist primarily of grasses and low shrubs, which are maintained by mechanical cutting or prescribed fire.

Fish and Wildlife

Most of the area within the boundary of TA C-87 is undeveloped and, therefore, provides relatively good habitat for wildlife. Overall habitat quality on TA D-51 is lower as much of the test area consists of training areas where the vegetation is regularly cut, burned, or cleared. Common wildlife species expected to occur in the upland communities on TA C-87 include, but are not limited to, the white-tailed deer, cottontail rabbit, gray fox, various rodents, opossum, fox squirrel, northern bobwhite, great-horned owl, various songbirds, six-lined race runner, eastern diamondback rattlesnake, five-lined skink, and green anole. Some of the these species may also occur on TA D-51, but to a lesser degree and primarily in the undeveloped parts of the test area. Common wildlife species expected to occur in the wetland and aquatic communities on TA C-87 include, but are not limited to, the raccoon, American beaver, American alligator, various frogs, various wading birds, largemouth bass, and sailfin shiner. These species are not expected to occur on TA D-51 as there are no wetland or aquatic communities on the test area.

Sensitive Species

Plant and animal species that are federally listed as Endangered or Threatened are afforded legal protection under the Endangered Species Act (ESA). The ESA requires federal agencies to ensure that actions they authorize, fund, or carry out won't likely jeopardize the continued existence of federally listed species, or result in the destruction or adverse modification of designated critical habitat of such species. It also requires that federal agencies implement measures to conserve, protect, and, where possible, enhance any listed species and its habitat. The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Generally, USFWS manages land and freshwater species and NMFS manages marine and anadromous species, which are species that breed in freshwater but live most of their lives in the sea. Section 7 of the ESA requires that federal actions determined to potentially impact federally listed species be consulted with USFWS or NMFS.

Animal species in Florida may also be awarded state listing and associated regulatory protection in accordance with Rule 68A-27, Florida Administrative Code (F.A.C.). FWC maintains the State's list of such animal species. Animal species that are not federally listed, but which are determined to be at risk of extinction in the State are state listed as Threatened. Species that are considered vulnerable and have the potential to become threatened are state-listed as Species of Special Concern (SSC). Plant species in Florida may also be awarded state listing and associated regulatory protection in accordance with Chapter 5B-40, F.A.C. The Florida Department of Agriculture and Consumer Services maintains the State's list of such plant species.

Sensitive species also include species not federally or state listed but which are protected under the Marine Mammal Protection Act, Bald and Golden Eagle Protection Act, or Migratory Bird Treaty Act. The 96 CEG/CEIEA has primary responsibility for the management of sensitive species and habitat, including evaluation of potential impacts to sensitive species and habitats by proposed actions, at Eglin AFB. The Eglin AFB INRMP (U.S. Air Force, 2012) includes guidance on the management and protection of sensitive species and habitat at Eglin AFB.

A total of 11 federally listed species have been documented to occur seasonally or year-round on Eglin AFB (**Table 3-7**). Other federally listed species such as the West Indian manatee (*Trichechus manatus*) and wood

stork (*Mycteria americana*) have been documented to occur on or near Eglin AFB during their seasonal migrations. The American alligator (*Alligator mississippiensis*), which is common on Eglin AFB, is federally listed solely due to its resemblance to the federally listed American crocodile (*Crocodylus acutus*). The following four federally listed freshwater mussel species have habitat ranges that border Eglin AFB: southern sandshell (*Hamiota australis*), Choctaw bean (*Villosa choctawensis*), fuzzy pigtoe (*Pleurobema strodeanum*), and narrow pigtoe (*Fusconaia escambia*).

TABLE 3-7
Federally Listed Species Documented to Occur Seasonally or Year-Round on Eglin AFB
Test Areas C-87 and D-51 REA

Common Name	Scientific Name	Federal Status
Plants		
Florida perforate lichen	*Cladonia perforata*	E
Fish		
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	T
Okaloosa darter	*Etheostoma okaloosae*	T
Amphibians		
Reticulated flatwoods salamander	*Ambystoma bishopi*	E
Reptiles		
Eastern indigo snake	*Drymarchon couperi*	T
Green sea turtle	*Chelonia mydas*	E
Kemp's ridley sea turtle	*Lepidochelys kempi*	E
Leatherback sea turtle	*Dermochelys coriacea*	E
Loggerhead sea turtle	*Caretta*	T
Birds		
Piping plover	*Charadrius melodus*	T
Red-cockaded woodpecker	*Picoides borealis*	E

Data Source: U.S. Air Force, 2012
E Endangered: species in danger of extinction throughout all or a significant portion of its range.
T Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.

The bald eagle (*Haliaeetus leucocephalus*), which is not federally listed but protected under the Bald and Golden Eagle Protection Act, also occurs on Eglin AFB. Numerous whale and dolphin species have been documented to occur in the waters of the EGTTR; these and all other marine mammals that occur in U.S. territorial waters are protected under the Marine Mammal Protection Act. The rufa red knot (*Calidris canutus rufa*), which is known to winter on Eglin AFB, is currently proposed to be federally listed as Threatened.

There are several species known to occur on Eglin AFB that are state listed as Threatened or SSC. Species that occur on Eglin AFB that are state-listed but not federally listed include, but are not limited to, the snowy plover (*Charadrius nivosus*), Southeastern American kestrel (*Falco sparverius paulus*), least tern (*Sterna antillarum*), several wading bird species, gopher tortoise (*Gopherus polyphemus*), Florida pine snake (*Pituophis melanoleucus mugitus*), gopher frog (*Lithobates capito*), Florida bog frog *(Lithobates okaloosae*), and several plant species. The gopher tortoise is currently a candidate for federal listing.

Based on the Eglin AFB INRMP (U.S. Air Force, 2012), no federally listed species have been documented to occur on TA C-87 or TA D-51. The eastern indigo snake (*Drymarchon couperi*), gopher tortoise, and several state-listed species could potentially occur on TA C-87 based on the habitat types that exist on the test area. The red-cockaded woodpecker (*Picoides borealis*) could also potentially forage on TA C-87 as there is one active RCW cavity tree in the general vicinity of the test area, approximately 0.5 mile west of the nearest practical training site. The reticulated flatwoods salamander (*Ambystoma bishopi*) is not expected to breed on TA C-87; however, there is potential breeding habitat for the reticulated flatwoods salamander in the general vicinity of the test area, approximately 0.35 mile west of the nearest practical training site at its nearest point. There are no streams on or in the vicinity of TA C-87 that are designated as Okaloosa darter (*Etheostoma okaloosae*) streams.

The overall potential for sensitive species to occur on TA D-51 is lower as much of the test area consists of training areas where the vegetation is regularly cut, burned, or cleared. Sensitive species considered to have the greatest potential to occur on TA D-51 include the eastern indigo snake, gopher tortoise, and state-listed species that utilize upland habitats. There are no active RCW cavity trees or breading habitat for the reticulated flatwoods salamander in the vicinity of TA D-51. There is one Okaloosa darter stream in the general vicinity of TA D-51, approximately 500 ft from the northern boundary of the test area at its nearest point.

While much of Eglin AFB has high biodiversity, specific areas on the Base are considered unique due to the high-quality habitats they contain and/or rare species they support. Such areas have been identified by the Florida Natural Areas Inventory (FNAI) and they are known as High Quality Natural Communities, Significant Botanical Sites (SBSs), and Outstanding Natural Areas (ONAs). High Quality Natural Communities encompass approximately 75,266 acres or 16 percent of Eglin AFB, and combined, SBSs and ONAs encompass approximately 43,210 acres or 9 percent of the Base (U.S. Air Force, 2012). High Quality Natural Communities exist just within the northern and western boundaries of TA C-87; they do not extend within the existing practical training sites on the test area. There are no SBSs or ONAs on or in the vicinity of TA C-87. There are no High Quality Natural Communities, ONAs, or SSBs on TA D-51; a High Quality Natural Community exists near the western boundary of the test area.

3.5.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 1 have the potential to impact biological resources primarily via explosives training emissions and noise. Outdoor explosives and non-explosives training activities on TAs C-87 and D-51 are conducted only in the designated training areas on the test areas; therefore, outdoor training activities on the test areas have no potential to directly physically impact onsite or offsite natural habitat. None of the detonations conducted on TAs C-87 and D-51 produce blast fragmentation; all detonations result only in release of air emissions (explosives residue). Therefore, explosives training on the test areas have no potential to physically impact wildlife via munition strikes. Explosives and non-explosives training on TAs C-87 and D-51 have very low potential to start wildfires (Joseph Desormeaux, Personal Communication, May 19, 2014). Training on TAs C-87 and D-51 are planned and conducted in accordance with the fire danger ratings and other wildfire minimization measures identified in EAFBI 13-212, *Range Planning and Operations*. Vegetation and other potentially flammable debris are also regularly removed from the areas where detonations are conducted on TAs C-87 and D-51 to minimize potential wildfire starts. For these reasons, training activities on the test areas have very low potential to impact biological resources via wildlife starts.

Training Emissions

Based on the analyses conducted in Sections 3.1.2, 3.3.2, and 3.4.2, emissions from current explosives training on TAs C-87 and D-51 under Alternative 1 are not expected to have adverse impacts on air quality, soils, or water resources. The overall potential for common wildlife or sensitive species to be adversely impacted via exposure (inhalation or ingestion) to RDX released during detonations on the test areas is low based on where the detonations are conducted and the amounts of RDX that are released. As discussed in Section 3.5.1, there are no active RCW trees, breeding habitat for the reticulated flatwoods salamander, or Okaloosa darter streams on either test area. Although other sensitive species could potentially occur on the test areas, there is low probability of sensitive species occurrence on and in the immediate vicinity of the explosive training areas, especially on TA D-51. Moreover, noise from human activity and detonations are expected to discourage most wildlife from remaining in the immediate vicinity of the explosives training areas during training events. Based on the types and sizes of the detonations conducted on TAs C-87 and D-51, the majority of the released RDX deposits in the immediate vicinity of the detonations, i.e., on the practical training sites on TA C-87 and on the Demolition Range on TA D-51. Explosives training in the TMD and IED Training Areas on TA D-51 results in little to no RDX deposition as detonations in these areas are conducted inside thick wooden structures located within blast pits. Although some RDX can be expected to deposit on habitats within the test areas, and potentially on

habitats outside the test areas, associated adverse impacts on the habitats and wildlife are not expected based on published environmental fate and transport information on RDX (see Sections 3.3.2 and 3.4.2).

Training Noise

The effects of noise on wildlife are not well understood and are mostly based on observations of behavioral responses. Animals rely on hearing for a variety of functions, including obtaining food, mating, and predator avoidance. Noise may mask or interfere with these functions. A general behavioral reaction by some wildlife species when exposed to noise is the startle response. Startle responses in animals include flight, jumping, running, or movement of the head in the apparent direction of the noise source (Manci et al., 1988). Animal response to noise has been shown to vary with species. For example, amphibians do not exhibit a well-developed acoustic startle response and are generally considered to not be susceptible to noise impacts (Manci et al., 1988). Direct physiological effects of noise on wildlife are difficult to measure In the field, but may include some health effects, depending on the noise levels. Serious effects such as decreased reproductive success depends on the species, the characteristics of the noise, and many other factors.

Although many studies have examined the behavioral responses of wildlife to aircraft noise, there is little information on the effects of impulsive bomb/blast noise on wildlife. Due to the lack of information on wildlife responses to noise from bomb explosions and detonations, impulsive noise thresholds for humans are typically used in impact analyses for wildlife. Laboratory tests of exposure of bird eggs to sonic booms and other impulsive noises have failed to show associated adverse effects on hatching of eggs (Bowles et al., 1991; Bowles et al., 1994; Cottereau, 1972; Cogger and Zegarra, 1980). A structural analysis by Ting et al. (2002) showed that even under extraordinary circumstances, sonic booms would not damage a bird egg. Manci, et al. (1988) reported that a female northern harrier was hunting on a bombing range in Mississippi during bombing exercises, and was apparently unfazed by the exercises, even when a bomb exploded within 200 ft of the bird.

On TA C-87, a detonation of 35 lbs NEW of C-4 on practical training site H would represent the greatest potential single-event impulsive noise impact on wildlife (see Section 3.2.2). The maximum NEW that is currently detonated on the other practical trainings sites on TA C-87 (sites A through G) is 2.5 lbs. As discussed above, impulsive noise thresholds for humans are typically used for wildlife due to the lack of information on wildlife responses to noise from bomb explosions and detonations. A peak sound pressure level of 140 dBP is the general impulsive noise threshold used for human hearing protection. Based on the analysis conducted in Section 3.2.2., the approximate distance of the 140 dBP noise contour from a detonation of 35 lbs NEW of C-4 and from a detonation of 2.5 lbs NEW of C-4 under favorable weather conditions is 2,164 ft and 898 ft, respectively. Based on the locations of sensitive species and habitat identified in the Eglin AFB INRMP (see Section 3.5.1), detonations of 35 lbs NEW on site H and detonations of 2.5 lbs NEW on sites A through G under favorable weather conditions are not expected to produce noise levels greater than 140 dBP in the nearest areas containing active RCW cavity trees, Okaloosa darter streams, or breeding habitat for the reticulated flatwoods salamander. Under unfavorable weather conditions (high winds and temperature inversion), the 140 dBP noise contours of detonations on TA C-87 have greater potential to extend into areas where sensitive species and habitat occur. As standard practice, NAVSCOLEOD coordinates with Eglin's Weather Office prior to explosives training on TA C-87 to determine if weather conditions are favorable to minimize the potential for public annoyance. Therefore, the overall potential for associated adverse single-event noise impacts on sensitive species and habitat is expected to be relatively low. Current explosives training on TA C-87 is not expected to have significantly adverse continuous noise impacts on common wildlife or sensitive species. Explosives training activity on TA C-87, with respect to the number and size of detonations conducted, has been relatively constant since the test area was created. Therefore, continuous noise impacts on wildlife from current explosives training activity are comparable to those from explosives training conducted during previous years. Detonations on TA C-87 predominately involve only 1.5 to 2.5 lbs NEW. Detonations of 35 lbs NEW on site H occur at a maximum frequency of only 15 times per year and the minimum time interval between each detonation is at least two

weeks. Wildlife have experienced noise from explosives training on TA C-87 for many years and, therefore, are acclimated to such noise.

Current explosives training on TA D-51 is not expected to have significantly adverse single-event or continuous noise impacts on common wildlife or sensitive species. As discussed in Section 3.5.1, the overall potential for sensitive species to occur on TA D-51 is relatively low as much of the test area consists of training areas where the vegetation is regularly cut, burned, or cleared. There are no active RCW cavity trees or breading habitat for the reticulated flatwoods salamander in the vicinity of TA D-51 and there is only one Okaloosa darter stream in the general vicinity of the test area. On TA D-51, a detonation of 1.5 lbs NEW of C-4 on the Demolition Range would represent the greatest potential single-event impulsive noise impact on wildlife. Based on the analysis conducted in Section 3.2.2 and the locations of sensitive species and habitat identified in the Eglin AFB INRMP (see Section 3.5.1), detonations of 1.5 lbs NEW on TA D-51 under favorable weather conditions are not expected to produce noise levels greater than 140 dBP in the nearest areas containing active RCW cavity trees, Okaloosa darter streams, or breeding habitat for the reticulated flatwoods salamander. Even under unfavorable weather conditions (high winds and temperature inversion), the associated 140 dBP noise levels are not expected to extend into areas of known sensitive species habitat based on the very low NEW of the detonations (1.5 lbs). Continuous noise impacts on wildlife from current explosives training activity on TA D-51 are comparable to those from explosives training conducted during previous years. Wildlife have experienced noise from explosives training on TA D-51 for many years and, therefore, are acclimated to such noise. Although detonations on the test area are conducted on most weekdays throughout the year, the detonations involve only a maximum of 1.5 NEW.

In summary, current explosives training on TAs C-87 and D-51 is not expected to have significantly adverse noise impacts on wildlife, including any sensitive species. Wildlife have experienced noise from explosives training on the test areas for many years and, therefore, are acclimated to such noise. Based on the expected noise levels and a review of the available literature on animal responses to noise, noise impacts on common and sensitive animal species under Alternative 1 are expected to be largely limited to temporary startle responses in some species. The associated startle responses are not expected to result in adverse effects on the health or reproduction of any species.

Based on the analysis conducted, Alternative 1 has a minor impact on biological resources. The impact is not significant. With respect to the RCW, this assessment is supported by USFWS' July 29, 2013 RCW Programmatic Biological Opinion for Eglin AFB mission activities, which included TA C-87 and TA D-51 training operations (USFWS, 2013). In this Biological Opinion, USFWS determined that Eglin's mission activities are not likely to jeopardize the continued existence of the RCW.

Alternative 2

Foreseeable future NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 2 have the potential to impact biological resources primarily via emissions and noise from explosives training and infrastructure construction, and by habitat loss due to infrastructure construction.

Foreseeable future explosives training on TAs C-87 and D-51 under Alternative 2 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the new trainings sites/areas proposed to be constructed on each test area. Therefore, TA C-87 and TA D-51 explosives training emissions under Alternative 2 and the associated impacts on biological resources would be the same as those under Alternative 1. Under Alternative 2, some of the 24 daily detonations of 0.15 to 2.5 lbs NEW currently conducted at the nine existing practical training sites on TA C-87 would be conducted at the four new advanced IED practical training sites and six new post-blast practical training sites once they are operational (see **Figure 2-4**). Given that the proposed new practical training sites would be adjacent to the existing sites, the potential noise impacts on biological resources associated with explosives training on TA C-87 under Alternative 2 would be the same as those under Alternative 1. Under Alternative 2, some of the 25 daily detonations of small charges (average NEW = 0.07 lb)

currently conducted in the TMD and IED Training Areas on TA D-51 would be detonated in the new WMD Training Area once it is operational (see **Figure 2-3**); there would be no location change in the 25 daily detonations of 1.5 lbs NEW currently conducted in the Demolition Range. Given that the proposed new WMD Training Area is very close to the TMD and IED Training Areas, and that detonations of the small charges have a negligible contribution to overall explosive training noise on the test area, the potential noise impacts on biological resources associated with explosives training on TA D-51 under Alternative 2 would be the same as those under Alternative 1.

Construction Impacts

Based on the analyses conducted in Section 3.1.2, emissions from the proposed infrastructure construction projects on TAs C-87 and D-51 under Alternative 2 are not expected to have adverse impacts on air quality, even when construction and explosives training emissions on both test areas combined are considered. Noise generated during construction activities may temporarily disturb wildlife; however, any disturbance experienced by wildlife would be limited to the construction period and is expected to be negligible based on the analysis conducted in Section 2.2.2.

Habitat within the footprints of the buildings, practical training sites, and other infrastructure proposed to be constructed on TAs C-87 and D-51 under Alternative 2 would be permanently displaced or otherwise disturbed/modified. For purposes of this impact analysis, all existing habitat within the construction footprints is assumed to be permanently lost. Based on the estimated dimensions of the proposed four new advanced IED practical training sites, perimeter security fence, and tactical blast course, their construction on TA D-87 is estimated to displace a minimum total of approximately 16.2 acres of habitat (**Table 3-8**). The total habitat loss would be slightly greater than 16.2 acres when miscellaneous ancillary infrastructure is considered. All of the habitat that would be displaced on TA C-87 by the proposed new infrastructure is sandhill. Based on recent aerial photography, the majority of the sandhill habitat that would be lost consists of dense vegetation. The footprints of two of the new practical training sites (sites L and K) and a small portion of the total footprint of the new perimeter security fence have been previously cleared and are currently covered by sparse vegetation. Although these areas have been disturbed, they are also considered to be sandhill habitat.

On TA D-51, only the proposed nine new WMD practical training sites would displace existing habitat (see **Table 3-8**). Based on the dimensions of the practical training sites, their construction is estimated to displace a minimum total of approximately 4 acres of sandhill habitat. The total habitat loss would be slightly greater than 4 acres when miscellaneous ancillary infrastructure associated with the sites is considered. The other proposed projects would be constructed in areas that are paved and/or have dirt surfaces and, therefore, would not displace any exiting habitat.

TABLE 3-8
Acreage of Habitat Estimated to be Lost Due to Infrastructure Construction on Test Areas C-87 and D-51 Under Alternative 2
Test Areas C-87 and D-51 REA

Infrastructure	Total Construction Footprint (Acres)	Total Habitat Loss (Acres)	Habitat Type
Test Area C-87			
Four Practical Training Sites	6.5	6.5	Sandhill
Perimeter Security Fence	9.2	9.2	Sandhill
Tactical Blast Course	0.5	0.5	Sandhill
Total		16.2	Sandhill
Test Area D-51			
Nine WMD Practical Training Sites	4.0	4.0	Sandhill
Building in Facilities Compound	0.1	0	Paved
Auditorium	0.6	0	Paved
Physical Training Field	12.5	0	Dirt Surface
Field House	0.3	0	Dirt Surface

Infrastructure	Total Construction Footprint (Acres)	Total Habitat Loss (Acres)	Habitat Type
Boneyard Renovation	3.5	0	Paved/Dirt Surface
Total		4.0	Sandhill
Total for Test Areas C-87 and D-51		**20.2**	Sandhill

Source: Author created

As indicated in **Table 3-8**, foreseeable future infrastructure construction on TAs C-87 and D-51 is estimated to displace approximately 16.2 acres and 4.0 acres of sandhill habitat, respectively, or a combined total of approximately 20.2 acres of sandhill habitat. The total amount of habitat that would be lost on the test areas would be a little more than 20.2 acres when miscellaneous ancillary infrastructure (access roads, utilities, etc.) associated with the projects is considered. The overall level of impact that the proposed projects would have on habitat/vegetation would be relatively minor with respect to the amount and type of habitat they would displace. Sandhill is the most common habitat type on Eglin AFB and the amount of sandhill that would be impacted by the projects would be a negligible percentage of the total amount of sandhill on the installation. Moreover, the sandhill that would be impacted on TAs C-87 and D-51 is located adjacent to existing training sites/areas on the test areas. No sensitive habitat would be impacted and the amount of sandhill that would be lost would not affect the survivability of any species. Listed species surveys would be conducted/coordinated by the 96 CEG/CEIEA prior to construction to confirm that no listed species occur within or in the immediate vicinities of the proposed construction sites on the test areas.

Based on the analysis conducted, Alternative 2 would have a moderate impact on biological resources. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Therefore, construction-related impacts on biological resources under Alternative 3 would be the same as those under Alternative 2 and TA C-87 training-related impacts on biological resources under Alternative 3 would be the same as those under Alternative 1 (and Alternative 2).

Under Alternative 3, mission-surge explosives training activity on TA D-51 would involve a 100 percent increase in the number of Alternative 1 detonations of 1.5 lbs NEW and Alternative 1 detonations of small charges (average NEW = 0.07 lb). Based on the analyses conducted in Sections 3.1.2, 3.3.2, and 3.4.2, emissions from mission-surge explosives training on TA D-51 under Alternative 3 are not expected to have adverse impacts on air quality, soils, or water resources. Although the amount of RDX that would be released and deposited would increase under Alternative 3, the overall potential for common wildlife or sensitive species to be adversely impacted via exposure (inhalation or ingestion) to RDX would still be low based on where the detonations are conducted on TA D-51. As under Alternative 1, the majority of the released RDX would deposit on and in the immediate vicinity of the Demolition Range. Little to no RDX deposition would result from explosives training in the existing TMD and IED Training Areas and the proposed new WMD training Area under Alternative 3 as the detonations in these areas would be conducted inside thick wooden structures located within blast pits. As discussed in Section 3.5.1, there are no active RCW trees, breeding habitat for the reticulated flatwoods salamander, or Okaloosa darter streams on TA D-51. Although other sensitive species could potentially occur on the test area, there is low probability of sensitive species occurrence on and in the immediate vicinity of the Demolition Range. Moreover, noise from human activity and detonations are expected to discourage most wildlife from remaining in the immediate vicinity of the Demolition Range during training events. Although some RDX can be expected to deposit on habitats within TA D-51, and potentially on habitats outside the test area, associated adverse impacts on the habitats and wildlife are not expected under Alternative 3 based on published environmental fate and transport information on RDX (see Sections 3.3.2 and 3.4.2).

Mission-surge explosives training on TA D-51 is not expected to have significantly adverse single-event or continuous noise impacts on common wildlife or sensitive species. Given that the maximum NEW detonation on TA D-51 would continue to be 1.5 NEW of C-4, Alternative 3 would have the same single-event noise impacts on wildlife as Alternative 1 (and Alternative 2), which based on the analysis, would not be significantly adverse. Although mission-surge explosives training on TA D-51 would generate greater continuous noise, associated adverse impacts on wildlife are not expected as the detonations would continue to involve only a maximum of 1.5 NEW and wildlife would acclimate to the noise over the duration of the mission-surge activity.

Based on the analysis conducted, Alternative 3 would have a moderate impact on biological resources. The impact would not be significant.

3.6 Cultural Resources

3.6.1 Affected Environment

Cultural resources consist of any physical or traditional evidence of human activity considered relevant to a particular culture or community. Cultural resources include prehistoric and historic sites, structures, and artifacts, as well as a community's heritage and way of life.

The National Historic Preservation Act (NHPA) sets forth government policy and procedures regarding historic properties. *Historic property* is defined under 36 CFR 800.16 (l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior". Section 106 of the NHPA requires federal agencies consider the effects of their actions on such properties, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

The Eglin AFB Integrated Cultural Resources Management Plan (ICRMP) provides guidance on how to identify, evaluate, and treat cultural resources on Eglin-managed lands, and integrate cultural resources management with mission activities and other Eglin management programs (U.S. Air Force, 2013). Development and approval requirements for the ICRMP are included in Air Force Policy Directive 32-70, *Environmental Quality*, and AFI 32-7065, *Cultural Resources Management*. The 96th Civil Engineer Group/Cultural Resources Office (96 CEG/CEIEA) has primary responsibility for the management of cultural resources, including evaluation of potential impacts to cultural resources by proposed actions, at Eglin AFB.

The inventory of cultural resources managed by the Eglin Cultural Resources Management Program includes 1,724 prehistoric, 562 historic, and 375 prehistoric and historic archaeological sites; 3 unaffiliated sites; and 1,005 historic above-ground structures (including 143 demolished buildings) (U.S. Air Force, 2013). The majority of the buildings and structures that are 50 years or older within the Eglin real property inventory have been evaluated for NRHP eligibility. Surveys have been conducted of 134,376 acres of the total 205,336 acres within Eglin AFB that are identified as having a high probability of containing cultural resources and recommended for archaeological survey (U.S. Air Force, 2013).

3.6.2 Environmental Consequences

SHPO Consultation

The Air Force consulted with the Florida SHPO on the Proposed Action through the Florida State Clearinghouse. In a letter dated October 21, 2014, SHPO concurred that the proposed activities on TA D-51 "will have no adverse effect on historic or archaeological properties" (see Appendix B). The Air Force concurs with the comments in the received letter regarding inadvertent discoveries and has addressed the procedures that will be followed in response to inadvertent discoveries further below in this section. In the received letter, SHPO indicated that there are several archaeological sites near TA C-87 and indicated that one of the sites is adjacent to one of the proposed practical training sites. SHPO stated that if any of the proposed developments and associated activities (i.e., staging, storage, and temporary access ways) may impact these resources, further consultation with its office will be required. The Air Force accepts these consultation requirements and will take

the necessary precautions to avoid impacts to the identified archaeological sites as determined appropriate by the 96 CEG/CEIEA. SHPO concluded that "if the above conditions are met, it is the opinion of this agency that this undertaking will have no effect on historic properties." Lastly, SHPO outlined the consultation and information that would be required if any buildings or structures 50 years old or older would be altered or demolished by the proposed construction activities. The Air Force accepts these consultation requirements and does not propose to alter or demolish any building or structure 50 years old or older as part of the proposed activities addressed in the REA.

Native American Tribe Consultation

The Air Force consulted with the following five federally recognized Native American Tribes on the Proposed Action: the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Poarch Band of Creek Indians of Alabama, Muscogee (Creek) Nation of Oklahoma, and Thlopthlocco Tribal Town of the Creek (Muscogee) Nation of Oklahoma. As indicated in the March 16, 2015 Memorandum For Record included in Appendix B, none of these Tribes dispute the determination that there are no properties of cultural or religious significance within the project area or which would likely be affected by the Proposed Action.

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD operations on TAs C-87 and D-51 under Alternative 1 have very low potential to impact cultural resources. Explosives and non-explosives training on TAs C-87 and D-51 is conducted only in designated training areas that are highly disturbed and have very low potential to contain archaeological resources; there are no historic buildings/structures on either test area. Based on the noise analysis conducted in Section 3.2.2, noise generated by current baseline detonations on TAs C-87 and D-51 does not structurally damage any historic building or structure on Eglin AFB. None of the detonations conducted on TAs C-87 and D-51 produce blast fragmentation; therefore, detonations on the test areas have no potential to physically impact cultural resources outside the training areas. In the event that cultural materials are inadvertently discovered during training activities on TA C-87 or TA D-51, all Eglin AFB requirements regarding inadvertent discoveries would be implemented. All activities in the immediate vicinity of the inadvertent find would immediately cease and the 96 CEG/CEIEA would be contacted to assess the find, and determine what legal mandates are applicable, and whether mitigation and consultation are required (U.S. Air Force, 2013).

Based on the analysis conducted, Alternative 1 has no effect on cultural resources.

Alternative 2

Explosives and non-explosives training on TAs C-87 and D-51 under Alternative 2 would have very low potential to impact cultural resources as discussed for Alternative 1. Foreseeable future infrastructure construction under Alternative 2 would involve ground disturbance and, therefore, would have potential to impact unknown buried archaeological resources. The potential for encountering buried cultural materials during infrastructure construction is greater on TA C-87 than on TA D-51 based on the predicted probability of cultural resources occurrence on the test areas. The overall potential for infrastructure construction on either test area to impact cultural resources is low as the projects would be conducted in accordance with all Eglin AFB policies and procedures pertaining to protection of cultural resources. Per Eglin AFB policy outlined in the ICRMP, all planned activities that involve ground disturbance at Eglin AFB such as construction are required to be coordinated with 96 CEG/CEIEA cultural resources personnel (U.S. Air Force, 2013). Based on the occurrence probability of the area proposed for disturbance, the 96 CEG/CEIEA determines if the area is required to be surveyed for cultural resources. In the event that cultural materials are inadvertently discovered during construction, all Eglin AFB requirements regarding inadvertent discoveries would be implemented, as discussed above for Alternative 1. As discussed above, SHPO has determined that the proposed infrastructure construction on TA D-51 and TA C-87 would have no adverse effect on historic or archaeological resources provided that the consultation requirements it has outlined are met. The Air Force accepts these consultation requirements and the 96 CEG/CEIEA will determine the necessary measures to be implemented to avoid impacts to the nearest archaeological sites during construction on TA C-87.

Based on the analysis conducted, Alternative 2 would have no effect on cultural resources.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). As discussed above, the overall potential for infrastructure construction on either test area to impact cultural resources is low as the projects would be conducted in accordance with all Eglin AFB policies and procedures pertaining to protection of cultural resources. As discussed above, SHPO has determined that the proposed infrastructure construction on TA D-51 and TA C-87 would have no adverse effect on historic or archaeological resources provided that the consultation requirements it has outlined are met. The Air Force accepts these consultation requirements and the 96 CEG/CEIEA will determine the necessary measures to be implemented to avoid impacts to the nearest archaeological sites during construction on TA C-87. Increasing the number of students who receive basic EOD training on TA D-51 by 100 percent and increasing the number of detonations on TA D-51 by 100 percent under Alternative 3 is not expected to increase the potential to impact cultural resources. Training under Alternative 3 would be confined to designed training areas and would be subject to the same restrictions, avoidance/minimization, and consultation requirements as under Alternative 1; therefore, the potential for cultural resources impacts under Alternative 3 is not expected to increase.

Based on the analysis conducted, Alternative 3 would have no effect on cultural resources.

3.7 Safety

3.7.1 Affected Environment

Several Air Force regulations address safety, including AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program* and Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards*. Air Force activities must comply with AFOSH guidance at all times. Air Force activities must also comply with OSHA regulations unless a military-unique exemption applies according to DoD Instruction 6055.1, *DoD Safety and Occupational Health Program*. Safety criteria pertaining to the use of explosives at TAs C-87 and D-51 are contained in AFMAN 91-201, *Explosives Safety Standards*.

Measures taken to minimize the risk to public safety on military property include enforcing restrictions on public access in areas with inherent safety risks, either permanently or temporarily. The extent of such restrictions are based on careful evaluation of all potential safety risk factors, which include but are not limited to, noise levels, blast effects, and potential presence of unexploded ordnance (UXO). Based on the inherent safety risks posed by current and past explosives use on TA C-87 and D-51, both test areas are closed to the public at all times.

The 96 TW Safety Office has the responsibility of ensuring the safe conduct of testing and training operations in the ETTC. Safety procedures required to be implemented for Eglin range operations are specified in AFI 13-212, *Range Planning and Operations*, EAFBI 13-212, *Range Planning and Operations*, and other range operation regulations and guidance documents. The designated NAVSCOLEOD Explosives Safety Officer has primary responsibility for overseeing safety during explosives training on TAs C-87 and D-51. Any ground intrusive activities on property known or suspected to contain UXO require prior approval from the 96 TW Safety Office and may necessitate remediation in accordance with DoD 6055.09-M, *DoD Ammunition and Explosives Safety Standards.*

3.7.2 Environmental Consequences

Alternative 1 (No Action Alternative)

TAs C-87 and D-51 are closed to the public at all times; therefore, baseline explosives training on the test areas under Alternative 1 does not jeopardize the health and safety of members of the public. Vehicular access to TA C-87 is controlled by an existing gate at the intersection of Range Road 213 and Range Road 503. Signage that

indicates the test area is restricted is also posted on surrounding unpaved roads/trails. Vehicular access to TA D-51 is controlled by security gates on Range Road 218 at the northwestern and northeastern ends of the test area. There is also a gate on Range Road 459 and a security fence along the perimeter of the test area. The gates on Range Road 218 are manned during operational hours.

Training operations on TAs C-87 and D-51 are conducted in coordination with the NAVSCOLEOD Explosives Safety Officer and Eglin Range Safety Office, and in strict compliance with all safety procedures specified in AFI 13-212, *Range Planning and Operations*, EAFBI 13-212, *Range Planning and Operations*, and other applicable range operation regulations and guidance documents. Each of the explosives training sites/areas on TAs C-87 and D-51 have an established Explosive Safety Quantity Distance (ESQD) arc, which is based on blast overpressure potential and other explosives safety considerations for each site/area. The respective ESQD arcs are all contained within the boundaries of the test areas. All training personnel are required to strictly adhere to the safety regulations that have been established for the ESQD arcs. Although the nature and extent of explosives training operations conducted on TAs C-87 and D-51 pose an inherent safety risk to military personnel, the potential for adverse health and safety impacts on military personnel is minimized by the range and explosives safety procedures that have been established. Given that these safety procedures are strictly enforced, the overall potential for baseline TA C-87 and TA D-51 operations under Alternative 1 to result in adverse health and safety impacts on military personnel is considered to be relatively low.

Based on the analysis conducted, Alternative 1 has a negligible impact on safety. The impact is not significant.

Alternative 2

TAs C-87 and D-51 are closed to the public at all times; therefore, foreseeable future explosives training on the test areas under Alternative 2 would not jeopardize the health and safety of members of the public. Given that the number of detonations conducted on TAs C-87 and D-51 would not change under Alternative 2, the overall safety risk posed by explosives training to military personnel under Alternative 2 would be the same as under Alternative 1.

ESQD arcs would be established for all the new explosives practical training sites proposed to be constructed on TAs C-87 and D-51 under Alternative 2. None of the proposed non-explosives training infrastructure would be constructed within existing or new ESQD arcs on the test areas. The training area on TA C-87 currently lacks a perimeter security fence. The current lack of a perimeter security fence makes the TA C-87 training area vulnerable to unauthorized entry during non-operational hours, which has resulted in instances of theft and property damage. Under Alternative 2, the proposed new perimeter security fence would encompass the existing and proposed new practical training sites on TA C-87 and, therefore, would have a positive effect on safety and site security.

Based on the analysis conducted, Alternative 2 would have a minor positive impact on safety. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). TAs C-87 and D-51 are closed to the public at all times; therefore, explosives training on the test areas under Alternative 3 would not jeopardize the health and safety of members of the public. Mission-surge explosives training activity on TA D-51 would involve a greater number of detonations and, therefore, can be expected to pose a greater overall safety risk to military personnel than training activity under Alternative 1 or 2. However, given that established range and explosives safety procedures would still be strictly enforced, the overall potential for the increased training activity under Alternative 3 to result in adverse health and safety impacts on military personnel is considered to be relatively low. Under Alternative 3, the proposed new TA C-87 perimeter security fence would have a positive impact on safety and site security as discussed for Alternative 2.

Based on the analysis conducted, Alternative 3 would have a minor positive impact on safety. The impact would not be significant.

3.8 Land Use

3.8.1 Affected Environment

TA C-87 consists largely of undeveloped land. Developed land on TA C-87 primarily includes the Advanced IED Training Facility, nine associated practical training sites, and an interconnecting road network. Undeveloped land on TA D-51 exists primarily in the eastern and southern parts of the test area. Developed land on TA D-51 primarily includes training buildings (applied instruction facilities), practical explosives and non-explosives training areas, various training support and maintenance facilities, storage structures/areas, and roads. Existing NAVSCOLEOD facilities and training areas on TA D-51 and TA C-87 are presented in **Table 2-1**, and shown on **Figures 2-1** and **2-2**, respectively.

Based on the Eglin AFB Comprehensive Range Plan (U.S. Air Force, 2011a), TAs C-87 and D-51 are both classified as *Armament Hazard-Impact Area-Nondudded* land use. This land-use category applies to areas used for expending ordnance that does not produce duds. Public access to TAs C-87 and D-51 is restricted. TAs C-87 and D-51 are both bordered on all sides by ETTC interstitial areas that are classified as *Maneuver-Tactical Movement or Danger Area* land use. The interstitial areas surrounding TAs C-87 and D-51 are used for tactical training and for outdoor recreation by the public, when public access is determined to not interfere with military operations.

3.8.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current TA C-87 and TA D-51 operations and infrastructure under Alternative 1 are compatible with the existing land-use classification of the test areas. Public access to TAs C-87 and D-51 is restricted. Current explosives training on TAs C-87 and D-51 has no effect on recreational use of the surrounding interstitial areas as the ESQD arcs of the areas where detonations are conducted are contained within the boundaries of the test areas (see Section 3.7). The interstitial areas on Eglin AFB are open to outdoor recreation by the public only when public access is determined to not interfere with military operations. Tactical training conducted by other commands have the potential to restrict public access to the interstitial areas surrounding TAs C-87 and D-51. Public access restrictions are implemented in accordance with Air Force policy and regulations to minimize the risk to public safety during military operations.

Based on the analysis conducted, Alternative 1 has no effect on land use.

Alternative 2

Foreseeable future explosives training on TAs C-87 and D-51 under Alternative 2 would involve the same number and type of detonations as under Alternative 1; the only change would be in training location, as a portion of the detonations would be conducted at the new trainings sites/areas proposed to be constructed on each test area (see Section 2.2.2). The change in training locations and the projected decrease in the annual student population who receive basic EOD training on TA D-51 under Alternative 2 would have no effect on land use within or outside either test area.

Future development options for TAs C-87 and D-51 and other areas on Eglin AFB used by NAVSCOLEOD were evaluated in the 2012 NAVSCOLEOD Area Development Plan (ADP) (Atkins, 2012). The foreseeable future infrastructure projects identified under Alternative 2 are based largely on the development recommendations made in the 2012 ADP. The projects under Alternative 2 have been further evaluated and refined since the ADP through the master planning process. The dimensions, orientations, and specific locations of the projects have been modified accordingly to maximize land use and operational functionality on the test areas. All the foreseeable future infrastructure projects on TAs C-87 and D-51 would be compatible with the existing land-use classification of the test areas and would have no effect on land use outside the test areas. The proposed

projects would collectively correct current deficiencies in infrastructure, training capability, and security on TAs C-87 and D-51 and, therefore, would have an overall positive effect on the land use of the test areas.

Based on the analysis conducted, Alternative 2 would have moderate positive impact on land use. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). As discussed above, the foreseeable future infrastructure projects on TAs C-87 and D-51 would have an overall positive effect on the land use of the test areas. Increasing the number of students who receive basic EOD training on TA D-51 by 100 percent and increasing the number of detonations on TA D-51 by 100 percent under Alternative 3 would have no effect on land use within or outside of the test area.

Based on the analysis conducted, Alternative 3 would have moderate positive impact on land use. The impact would not be significant.

3.9 Hazardous Materials/Wastes and Solid Waste

3.9.1 Affected Environment

Hazardous materials have been declared hazardous through federal listings including: Extremely Hazardous Substances (EHSs) listed in 40 CFR 355; those listed as hazardous if released, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 40 CFR 302.4; and by definition of hazardous chemicals by OSHA in 29 CFR 1910.1200. Hazardous materials are defined in AFI 32-7086, *Hazardous Materials Management*, to include any substance with special characteristics that could harm people, plants, or animals.

Hazardous waste is any solid, liquid, or contained gas waste that is dangerous or potentially harmful to human health or the environment. The treatment, storage and disposal of hazardous waste is regulated under the Resource Conservation and Recovery Act (RCRA). Hazardous wastes are classified under RCRA in 40 CFR 261 as either “characteristic wastes” or “listed wastes”. Characteristic hazardous wastes exhibit one or more of the following traits: ignitability, reactivity, corrosivity, or toxicity. Listed hazardous wastes are wastes specifically listed as being hazardous and are from either specific sources, non-specific sources, or discarded chemical products.

Hazardous materials and wastes at TAs C-87 and D-51 are associated primarily with test area operations and maintenance – explosives, petroleum products, paints, etc. There are no petroleum-product aboveground or underground storage tanks on TA C-87 or TA D-51.

Eglin AFB implements a comprehensive Hazardous Material Management Process for the management of hazardous materials on the installation. The Eglin AFB Hazardous Waste Management Plan (U.S. Air Force, 2010a) provides guidance on the proper handling and disposal of hazardous waste, including spill contingency and response requirements, at Eglin AFB. Procedures and responsibilities for responding to a hazardous waste spill or other incident are also addressed in the Eglin AFB Spill Prevention, Control, and Countermeasures Plan (U.S. Air Force, 2010b). The 96 CEG/CEIEC has primary responsibility for the management of hazardous materials/waste authorization, storage, and disposal at Eglin AFB.

Eglin AFB is classified as a Large Quantity Generator of hazardous waste (USEPA No. FL8570024366). Wastes at Eglin AFB are controlled and managed from the point of generation to the point of ultimate disposal. Wastes are temporarily stored at designated Initial Accumulation Points located at work locations. Once the storage limit is reached, the wastes are transferred to the central Hazardous Waste Accumulation Site (Building 524). Within 90 days, the wastes are transported off-base and disposed of in accordance with applicable regulations. Eglin AFB

has separate plans that provide guidance on managing asbestos-containing materials (ACM) and lead-based paint (LBP) at the installation in accordance with all applicable regulations.

The Environmental Restoration Program (ERP) was developed by DoD to identify, characterize, and remediate contamination from past hazardous waste disposal operations and hazardous materials spills at DoD facilities. A total of 119 ERP sites have been identified on Eglin AFB; all of these sites have remedies in place. There are no ERP sites on or in the immediate vicinity of TA C-87 or TA D-51.

Eglin AFB implements a Military Munitions Response Program (MMRP) to investigate and cleanup sites where there is suspected contamination associated with past use of ordnance or munitions (non-operational ranges only). A total of eight MMRP sites (32 separate locations) have been identified on Eglin AFB; all sites are being investigated to assess the extent of contamination. There are two active and one closed MMRP sites along the perimeter of TA D-51; there are no MMRP sites on or in the immediate vicinity of TA C-87

The potential impacts of hazardous materials released during explosives training on TAs C-87 and D-51 are discussed in the sections that address potential impacts on air quality, soils, water resources, and biological resources.

3.9.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Current NAVSCOLEOD training and maintenance operations on TAs C-87 and D-51 involve handling of relatively small amounts of hazardous materials/wastes such as explosives, petroleum products, and paints. Certain types of hazardous materials on TA D-51 are stored in Building 8856A (HAZMAT Storage Facility). Explosives are stored on TAs C-87 and D-51 in lockers only during operational hours. At the end of each training day, the explosives are removed from the test areas and stored in magazines on Eglin Main. Hazardous materials/wastes are managed on TAs C-87 and D-51 in coordination with the 96 CEG/CEIEC and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans. The types and amounts of solid waste that are generated on TAs C-87 and D-51 are typical for the facilities that are operated and the number of personnel who train on the test areas.

Based on the analysis conducted, Alternative 1 has no effect on hazardous materials/wastes or solid waste.

Alternative 2

Under Alternative 2, there would be no change in the types of hazardous materials used, the types of hazardous wastes generated, or the manner in which hazardous materials/waters are managed on TAs C-87 and D-51. The projected decrease in the annual student population who receive basic EOD training on TA D-51 under Alternative 2 would not result in a discernible difference in the quantities of hazardous materials/wastes managed or solid waste generated on the test area compared to Alternative 1.

Under Alternative 2, construction of the proposed new infrastructure on TAs C-87 and D-51 would involve use of typical construction-related hazardous materials such as petroleum products, paints, solvents, etc. Handling, storage, and disposal of hazardous materials/wastes during construction activities, including measures to prevent releases, would be conducted in coordination with the 96 CEG/CEIEC and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans. Operation of the new infrastructure would not result in a discernible difference in the types or quantities of hazardous materials/wastes managed on the test areas compared to Alternative 1. None of the structures proposed to be demolished under Alternative 2 are expected to contain ACM or LBP. There are no ERP sites on or in the immediate vicinity of TA C-87 or TA D-51. Infrastructure construction on TA D-51 would have no effect on the MMRP sites along the perimeter of the test area; there are no MMRP sites on or in the immediate vicinity of TA C-87.

The infrastructure construction projects under Alternative 2 would generate nonhazardous, construction-related solid waste such as construction debris, rubble, and stripped vegetation. Construction solid waste would be

disposed of at an off-base landfill; some of the debris may be recycled/reused on Eglin AFB, as appropriate. Operation of the new infrastructure would not result in a discernible difference in the types or quantities of solid waste generated on the test areas compared to Alternative 1.

Based on the analysis conducted, Alternative 2 would have no effect on hazardous materials/wastes or solid waste.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Increasing the number of students who receive basic EOD training on TA D-51 by 100 percent and increasing the number of detonations on TA D-51 by 100 percent under Alternative 3 would result in greater usage of explosives on the test area. Although the quantities of explosives would increase, there would be no change in the types of explosives used or the manner in which they are managed. The increase in students and training activity would result in a negligible increase in the amount of solid waste that would be generated on the test area.

Based on the analysis conducted, Alternative 3 would have no effect on hazardous materials/wastes or solid waste.

3.10 Utilities

3.10.1 Affected Environment

Electrical service is provided to TAs C-87 and D-51 by the Choctawhatchee Electric Cooperative (CHELCO) via overhead lines. The stormwater system on the test areas consists of aboveground drainage ditches and underground storm sewer lines. Potable and fire suppression water on TA C-87 is provided by one well and on TA D-51 by two wells and a 150,000-gallon aboveground water storage tank. The wastewater system on TA C-87 consists of one septic tank and associated leach field. There are nine septic tanks and associated leach fields on TA D-51. The water and wastewater utility systems on TA D-51 are currently being upgraded. The upgrades include abandoning the existing water wells, aboveground water storage tank, and septic systems, and connecting the test area to the Okaloosa County water and wastewater utility lines/systems.

3.10.2 Environmental Consequences

Alternative 1 (No Action Alternative)

The existing utility systems on TAs C-87 and D-51 are able to support current NAVSCOLEOD operations and existing infrastructure on the test areas. NAVSCOLEOD operations on TA D-51 will benefit from the ongoing upgrades to the existing water and wastewater utility systems on the test area. Abandoning the existing water wells, aboveground water storage tank, and septic systems, and connecting the test area to the Okaloosa County water and wastewater utility lines/systems will improve water (potable and fire suppression) and sewage capacity on the test area. As the water and wastewater utility upgrades on TA D-51 are currently underway, they are included as part of the baseline activity under Alternative 1.

Based on the analysis conducted, Alternative 1 would have a minor positive impact on utilities. The impact would not be significant.

Alternative 2

The projected decrease in the annual student population who receive basic EOD training on TA D-51 under Alternative 2 would result in a negligible decrease in electricity and water consumption and wastewater generation on the test area. The new facilities proposed to be constructed on TAs C-87 and D-51 would require connections to the utility lines/systems on the test areas; all new connecting utility lines for the facilities would be sized appropriately. The types of new stormwater management systems (e.g., ditches and culverts) or modifications to existing stormwater systems that would be required for the new infrastructure would be

determined during the design and permitting phases of the projects. Increases in stormwater runoff potential and the stormwater permitting requirements for the new infrastructure are discussed in Section 3.4.2.

Based on the analysis conducted, Alternative 2 would have a minor impact on utilities. The impact would not be significant.

Alternative 3 (Preferred Alternative)

Alternative 3 includes the foreseeable future construction expected to occur on TAs C-87 and D-51 as discussed for Alternative 2, and a mission surge in TA D-51 training activity; TA C-87 training activity under Alternative 3 would remain at the current baseline level as discussed for Alternative 1 (see Section 2.2.3). Increasing the number of students who receive basic EOD training on TA D-51 by 100 percent would result a minor increase in electricity and water consumption and wastewater generation on the test area.

Based on the analysis conducted, Alternative 3 would have a minor impact on utilities. The impact would not be significant.

3.11 Environmental Justice and Protection of Children

3.11.1 Affected Environment

On February 11, 1994, the President issued EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. This EO requires federal agencies to address disproportionate environmental and human health impacts from federal actions on minority populations and low-income populations. The President directed all federal agencies to analyze the environmental effects on minority and low-income communities, including human health, social, and economic effects.

The Air Force's *Guide for Environmental Justice Analysis with the Environmental Impact Analysis Process (EIAP)* provides guidance on how environmental justice should be analyzed in conjunction with EIAP in accordance with NEPA (Department of the Air Force, 1997). According to this guidance, if the Proposed Action would have no impact on human populations, or if the impact that it would have would not be adverse, the Proposed Action would not disproportionately impact minority or low-income populations and no environmental justice analysis would be required. If the Proposed Action is determined to have an adverse impact on human populations, then the environmental justice analysis should be conducted in accordance with the guidance to determine if it would disproportionately impact minority or low-income populations.

Guidelines for the protection of children are specified in EO 13045, *Protection of Children from Environmental Health Risks and Safety Risk* (*Federal Register*, Volume 62, Number 78, April 23, 1997). This EO requires that federal agencies make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and ensure that policies, programs, and standards address disproportionate risks to children that result from environmental health or safety risks.

In 2013, the population of Walton County was estimated to be 59,403; children under 5 years of age were estimated to be 5.5 percent of the population, minorities were estimated to be 16.7 percent of the population, and persons below the poverty level were estimated to be 17.9 percent of the population (U.S. Census Bureau, 2015). The nearest residential community to TA D-51 is located in Choctaw Beach, approximately 2 miles to the south of the test area and the nearest residential community to TA C-87 is located in Mossy Head, located approximately 3.2 miles to the northeast of the test area.

3.11.2 Environmental Consequences

Alternative 1 (No Action Alternative)

Alternative 1 has at most, minor impacts on the resources most relevant for assessing impacts on human populations, which are air quality, noise, groundwater, surface water, and hazardous materials/wastes. The potential impacts that Alternative 1 has on these resources do not adversely affect human populations. Therefore, Alternative 1 does not have disproportionately high or adverse human health or environmental

effects on minority or low-income populations. No activity under Alternative 1 results in environmental health or safety risks to children.

Alternative 2

Alternative 2 would have at most, minor impacts on the resources most relevant for assessing impacts on human populations, which are air quality, noise, groundwater, surface water, and hazardous materials/wastes. The potential impacts that Alternative 2 would have on these resources would not adversely affect human populations. Therefore, Alternative 2 would not have disproportionately high or adverse human health or environmental effects on minority or low-income populations. No activity under Alternative 2 would result in environmental health or safety risks to children.

Alternative 3 (Preferred Alternative)

Alternative 3 would have at most, minor impacts on the resources most relevant for assessing impacts on human populations, which are air quality, noise, groundwater, surface water, and hazardous materials/wastes. The potential impacts that Alternative 3 would have on these resources would not adversely affect human populations. Therefore, Alternative 3 would not have disproportionately high or adverse human health or environmental effects on minority or low-income populations. No activity under Alternative 3 would result in environmental health or safety risks to children.

3.12 Cumulative Impacts

Cumulative impacts are defined in the CEQ regulations implementing provisions of NEPA (CEQ 1508.7) as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Alternative 3 includes all foreseeable future and anticipated mission-surge NAVSCOLEOD activity on TAs C-87 and D-51. Alternative 3 represents the entire scope of operations and infrastructure construction that would be conducted by NAVSCOLEOD on the test areas from the present through the foreseeable future. Based on the analysis conducted in Section 3, the magnitude of impact that the entire scope of NAVSCOLEOD operations and construction would have on each resource analyzed is expected to be moderate at most, and not adversely significant. This determination is made based on the types, durations, frequencies, and locations of the operations and construction projects and the resources at potential risk.

Military operations have been conducted at Eglin AFB for almost 80 years. Military operations within and beyond the Proposed Action ROI have and continue to include a wide range of testing and training activities on/over Eglin's land and water ranges, which include approximately 130,000 mi^2 of airspace and over 50 specific test areas/sites. Public recreational activities, including hunting, fishing, hiking, and boating, occur on approximately 261,000 acres of Eglin AFB. The general region has experienced steady population and economic growth over the years; past and present major actions are primarily associated with residential and commercial development in the population centers and development of regional infrastructure such as roadways, airports, and utility systems. The primary reasonably foreseeable future actions within and near the Proposed Action ROI include the following:

- **Relocation of the 7th Special Forces Group (7 SFG) to Eglin AFB**: The 7 SFG relocated from Fort Bragg, North Carolina to Eglin AFB in 2011 as part of the 2005 Base Realignment and Closure (BRAC) Program. 7 SFG personnel relocations and range/facility construction at Eglin AFB have not yet reached final-state levels; the final state levels have been analyzed in the Eglin BRAC-2005 EIS (U.S. Air Force, 2008).
- **Joint Strike Fighter (JSF) Beddown at Eglin AFB**: A total of 59 F-35 aircraft (JSF aircraft) were authorized for delivery to Eglin AFB by the February 5, 2009 Record of Decision (ROD) issued for Implementation of BRAC 2005 Decisions for the JSF Initial Joint Training Site, Eglin AFB, Florida (*Federal Register*, Volume 74, page 34,

February 23, 2009). Potential impacts of the beddown and operations of the JSF aircraft were analyzed in the 2014 *Final Supplemental Environmental Impact Statement for F-35 Beddown at Eglin Air Force Base, Florida* (U.S. Air Force, 2014), the ROD for which was signed on June 26, 2014.

- **Destin-Fort Walton Beach Airport**: Projects over the next five years would include construction of a new Air Traffic Control tower, runway paving, apron expansion for additional aircraft parking, and construction of a noise wall, additional parking spaces, and an engine run-up pad.
- **DeFuniak Springs Airport**: Projects over the next five years would include upgrades to existing aircraft parking aprons, various utility and equipment upgrades/construction, and construction of a new aircraft apron, T-hangar aircraft storage building, taxiways, and access road.
- **Paving Rattlesnake Road from Highway (Hwy) 85 to Camp James Rudder:** This project would involve the paving of Range Road 211 (River Road) from the intersection of Range Road 211 and Range Road 257 (Camp Road), to the intersection of Range Road 211 and Hwy 85.
- **Hwy 123 Widening:** This project would involve widening Hwy 123 from two lanes to four lanes, from Hwy 85 South to Hwy 85 North.
- **Hwy 87 Widening:** This project would involve widening Hwy 87 from two lanes to four lanes, from the southern boundary of Eglin AFB to the Yellow River Bridge.
- **Eglin Main Comprehensive Plan**. Based on the Eglin and Duke Field Comprehensive Plan, 32 Military Construction (MILCON) projects (facilities and runways) are planned beyond FY 2011 at Eglin Main Base.
- **Hurlburt Field General Plan:** Based on the Hurlburt Field General Plan, more than 50 transportation and capital improvement projects are planned over the next five years on Hurlburt Field.
- **Relocation of Aviation Foreign Internal Defense (AvFID) Mission to Eglin AFB**: The AvFID mission is in the process of relocating from Hurlburt Field to Duke Field on Eglin AFB.
- **Relocation of 9th Special Operations Squadron (9 SOS) to Hurlburt Field:** The 9 SOS is relocating from Eglin AFB to Hurlburt Field to consolidate all local C-130 operations.
- **Alabama Army National Guard (ALARNG):** In the next two to five years, the ALARNG proposes to relocate their support facilities from Test Area B-75 to the Duke Field area.
- **AFSOC Small Unmanned Aerial System (UAS) School at Choctaw Field:** The Air Force allowed AFSOC to stand-up a temporary UAS Schoolhouse at Choctaw Field in the summer of 2009. This temporary beddown would become permanent in the future if the Air Force determines the AFSOC UAS operations can be completed in conjunction with proposed F-35 operations at Choctaw Field. If the UAS operations conflict with F-35 operations, then AFSOC would relocate their UAS Schoolhouse.
- **Military Housing Privatization Initiative (MHPI):** The Air Force is currently privatizing all military family housing for both Eglin AFB and Hurlburt Field. This process involves the demolition and construction of more than 1,400 houses. These activities were analyzed in the *Final Environmental Impact Statement for the Military Housing Privatization Initiative (MHPI) at Eglin AFB and Hurlburt Field, Florida* (U.S. Air Force, 2011b). The associated ROD was signed on February 6, 2012.
- **Emerald Coast Technology and Research Center (ECTRC) at the University of Florida Research and Engineering Education Facility:** The ECTRC will be developed by the Air Force as a campus to be jointly used by the military and private sector. The ECTRC campus will benefit current and future missions, research, and development at Eglin AFB and the surrounding communities. Potential impacts have been analyzed in an EA and the associated FONSI was signed on April 4, 2012.
- **F-18 Operations at Choctaw Field:** The Navy is currently repairing Oceana Fentress Naval Auxiliary Landing Field in Virginia, and during this period some of the flight training has been shifted to Choctaw Field. The associated operations at Choctaw Field would be temporary.

The Proposed Action is not expected to have adverse cumulative impacts on air quality. Explosives training emissions under the Proposed Action would be comparable to past emissions on TAs C-87 and D-51, and the associated impacts on air quality, even when combined with emissions from the infrastructure construction projects proposed on the test areas, would be negligible with respect to regional criteria pollutant emissions. Air emissions from other foreseeable future development projects on and off Eglin AFB would be temporary, intermittent, and minor, and significant increases in other future mission-related air emissions are not expected. The Proposed Action is not expected to result in adverse cumulative impacts on soils or water resources. Potential impacts on soil quality and water quality from RDX deposition under the Proposed Action would be localized and minor. The infrastructure construction projects under the Proposed Action would not displace any wetlands, surface waters, or floodplains, or involve withdrawal of surface water or groundwater. When combined with the potential impacts of other Eglin range operations and infrastructure development projects, the resulting cumulative impacts on soil and water quality are not expected to be significantly adverse.

When added to present and foreseeable future actions, the Proposed Action is not expected to result in adverse cumulative noise impacts. Most of the present and future actions outside of Eglin AFB involve construction and/or demolition noise, which is temporary and typically limited to normal working hours. The Proposed Action would have only minor noise impacts on the public, common wildlife, and sensitive species. Training noise levels under the Proposed Action would be comparable to past training noise levels on the test areas. Significant increases in future operational noise levels on other Eglin land ranges are not expected and geographical separation between TAs C-87 and D-51 and other ranges limits the potential for adverse cumulative noise impacts. The projected future expansion of Eglin air operations are expected to result in greater associated noise levels. Concurrent TA C-87/D-51 and Eglin air operations noise may result in greater public annoyance and animal startle responses. Associated cumulative impacts are expected to be largely limited to communities and wildlife in the vicinity of Eglin's airfields and are not expected to be significantly adverse.

Based on the analysis conducted, when added to past, present, and reasonably foreseeable actions, the Proposed Action is not expected to have significantly adverse cumulative impacts on any resource.

3.13 Summary of Environmental Consequences

The potential environmental consequences of Alternatives 1, 2, and 3 are summarized in **Table 3-9**.

TABLE 3-9
Summary of Environmental Consequences
Test Area C-87 and D-51 REA

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
Air Quality	*Negligible Impact – Not Significant* Maximum annual TA C-87 and TA D-51 combined explosives training emissions of criteria pollutants and VOCs are negligible and well below the respective annual emissions of the applicable Air Quality Region.	*Negligible Impact – Not Significant* Maximum annual TA C-87 and TA D-51 combined explosives training and construction emissions of criteria pollutants and VOCs are expected to be negligible and well below the respective annual emissions of the applicable Air Quality Region.	*Negligible Impact – Not Significant* Maximum annual TA C-87 and TA D-51 combined explosives training and construction emissions of criteria pollutants and VOCs are expected to be negligible and well below the respective annual emissions of the applicable Air Quality Region.
Noise	*Minor Impact – Not Significant* Explosives training on TAs C-87 and D-51 does not have significantly adverse single-event or continuous (time-averaged) noise impacts on the public. Potential noise impacts on the public are limited to annoyance; hearing loss does not occur. Under unfavorable weather conditions (high winds and	*Minor Impact – Not Significant* Explosives training on TAs C-87 and D-51 is not expected to have significantly adverse single-event or continuous (time-averaged) noise impacts on the public. Potential noise impacts on the public are expected to be limited to annoyance; hearing loss is not expected. Under unfavorable weather	*Minor Impact – Not Significant* Explosives training on TAs C-87 and D-51 is not expected to have significantly adverse single-event or continuous (time-averaged) noise impacts on the public. Potential noise impacts on the public are expected to be limited to annoyance; hearing loss is not expected. Under unfavorable weather

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
	temperature inversion), detonations on both test areas would have greater potential noise annoyance impacts. As standard practice, NAVSCOLEOD coordinates with Eglin's Weather Office prior to explosives training to determine if weather conditions are favorable to minimize the potential for public annoyance.	conditions (high winds and temperature inversion), detonations on both test areas would have greater potential noise annoyance impacts. As standard practice, NAVSCOLEOD coordinates with Eglin's Weather Office prior to explosives training to determine if weather conditions are favorable to minimize the potential for public annoyance. Infrastructure construction on TAs C-87 and D-51 is not expected to have adverse noise impacts on the public. Any construction noise that is audible in residential areas is expected to be perceived as faint and/or distant, and would be heard only during daytime and only over the duration of the construction period.	conditions (high winds and temperature inversion), detonations on both test areas would have greater potential noise annoyance impacts. As standard practice, NAVSCOLEOD coordinates with Eglin's Weather Office prior to explosives training to determine if weather conditions are favorable to minimize the potential for public annoyance. Infrastructure construction on TAs C-87 and D-51 is not expected to have adverse noise impacts on the public. Any construction noise that is audible in residential areas is expected to be perceived as faint and/or distant, and would be heard only during daytime and only over the duration of the construction period.
Soils	*Minor Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 results in negligible soil disturbance and has very low potential to cause soil erosion. RDX deposition resulting from detonations is not expected to have significantly adverse impacts on soils based on RDX's biodegradation potential in soil; RDX deposition is expected to be largely confined within the boundaries of the test areas.	*Minor Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 would result in negligible soil disturbance and have very low potential to cause soil erosion. RDX deposition resulting from detonations is not expected to have significantly adverse impacts on soils based on RDX's biodegradation potential in soil; RDX deposition is expected to be largely confined within the boundaries of the test areas. Soils within the construction footprints on TAs C-87 and D-51 would be disturbed via excavation and in some cases application of pavement/concrete. BMPs and erosion/sedimentation controls would be implemented during construction to minimize potential direct and indirect impacts on soils.	*Minor Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 would result in negligible soil disturbance and have very low potential to cause soil erosion. RDX deposition resulting from detonations is not expected to have significantly adverse impacts on soils based on RDX's biodegradation potential in soil; RDX deposition is expected to be largely confined within the boundaries of the test areas. Soils within the construction footprints on TAs C-87 and D-51 would be disturbed via excavation and in some cases application of pavement/concrete. BMPs and erosion/sedimentation controls would be implemented during construction to minimize potential direct and indirect impacts on soils.
Water Resources	*Negligible Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 has no potential to directly physically impact onsite or offsite wetlands or surface waters. Based on RDX's known behavior in anaerobic soils and aquatic environments, explosives training on the test areas is not expected to adversely impact wetlands or surface waters via RDX deposition. RDX is not expected to adversely impact groundwater quality based on groundwater sampling.	*Negligible Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 would have no potential to directly physically impact onsite or offsite wetlands or surface waters. Based on RDX's known behavior in anaerobic soils and aquatic environments, explosives training on the test areas is not expected to adversely impact wetlands or surface waters via RDX deposition. RDX is not expected to adversely impact groundwater quality based on groundwater sampling.	*Negligible Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 would have no potential to directly physically impact onsite or offsite wetlands or surface waters. Based on RDX's known behavior in anaerobic soils and aquatic environments, explosives training on the test areas is not expected to adversely impact wetlands or surface waters via RDX deposition. RDX is not expected to adversely impact groundwater quality based on groundwater sampling.

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
		Construction of the proposed infrastructure on TAs C-87 and D-51 would not result in any loss of wetland, surface water, or 100-year floodplain area. Construction on TAs C-87 and D-51 is estimated to create approximately 3.8 acres and 7.7 acres of impervious area, respectively, or a combined total of approximately 11.3 acres of impervious area. The construction projects that would create more than 4,000 ft^2 (0.09 acre) of impervious area would require an ERP Permit from FDEP. The Navy would be required to comply with FDEP regulations regarding post-condition stormwater runoff discharge rates for the increase in impervious area. In addition to the ERP Permit, the Navy would be required to obtain a FDEP NPDES stormwater construction permit and implement an associated SWPPP for the projects that would disturb one or more acres of land. The BMPs and erosion/sedimentation controls that would be implemented for the projects would be discussed in the SWPPP.	Construction of the proposed infrastructure on TAs C-87 and D-51 would not result in any loss of wetland, surface water, or 100-year floodplain area. Construction on TAs C-87 and D-51 is estimated to create approximately 3.8 acres and 7.7 acres of impervious area, respectively, or a combined total of approximately 11.3 acres of impervious area. The construction projects that would create more than 4,000 ft^2 (0.09 acre) of impervious area would require an ERP Permit from FDEP. The Navy would be required to comply with FDEP regulations regarding post-condition stormwater runoff discharge rates for the increase in impervious area. In addition to the ERP Permit, the Navy would be required to obtain a FDEP NPDES stormwater construction permit and implement an associated SWPPP for the projects that would disturb one or more acres of land. The BMPs and erosion/sedimentation controls that would be implemented for the projects would be discussed in the SWPPP.

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
Biological Resources	*Minor Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 has no potential to directly physically impact natural habitat or wildlife. Training activities have very low potential to impact biological resources via wildlife starts. RDX deposition resulting from detonations is not expected to have significantly adverse impacts on habitats, common wildlife, or sensitive species based on where the detonations are conducted, the amounts of RDX that are released, and published environmental fate and transport information on RDX. Explosives training on the test areas does not have significantly adverse single-event or continuous noise impacts on common wildlife or sensitive species. Noise impacts on common and sensitive animal species are expected to be largely limited to temporary startle responses in some species. The associated startle responses are not expected to result in adverse effects on the health or reproduction of any species.	*Moderate Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 would have no potential to directly physically impact natural habitat or wildlife. Training activities would have very low potential to impact biological resources via wildlife starts. RDX deposition resulting from detonations is not expected to have significantly adverse impacts on habitats, common wildlife, or sensitive species based on where the detonations would be conducted, the amounts of RDX that would be released, and published environmental fate and transport information on RDX. Explosives training on the test areas is not expected to have significantly adverse single-event or continuous noise impacts on common wildlife or sensitive species. Noise impacts on common and sensitive animal species are expected to be largely limited to temporary startle responses in some species. The associated startle responses are not expected to result in adverse effects on the health or reproduction of any species. Construction on TAs C-87 and D-51 is estimated to displace approximately 16.2 acres and 4.0 acres of sandhill habitat, respectively, or a combined total of approximately 20.2 acres of sandhill habitat. No sensitive habitat would be impacted and the amount of sandhill that would be lost would not affect the survivability of any species. Listed species surveys would be conducted prior to construction to confirm that no listed species occur within or in the immediate vicinities of the construction sites.	*Moderate Impact – Not Significant* Explosives and non-explosives training on TAs C-87 and D-51 would have no potential to directly physically impact natural habitat or wildlife. Training activities would have very low potential to impact biological resources via wildlife starts. RDX deposition resulting from detonations is not expected to have significantly adverse impacts on habitats, common wildlife, or sensitive species based on where the detonations would be conducted, the amounts of RDX that would be released, and published environmental fate and transport information on RDX. Explosives training on the test areas is not expected to have significantly adverse single-event or continuous noise impacts on common wildlife or sensitive species. Noise impacts on common and sensitive animal species are expected to be largely limited to temporary startle responses in some species. The associated startle responses are not expected to result in adverse effects on the health or reproduction of any species. Construction on TAs C-87 and D-51 is estimated to displace approximately 16.2 acres and 4.0 acres of sandhill habitat, respectively, or a combined total of approximately 20.2 acres of sandhill habitat. No sensitive habitat would be impacted and the amount of sandhill that would be lost would not affect the survivability of any species. Listed species surveys would be conducted prior to construction to confirm that no listed species occur within or in the immediate vicinities of the construction sites.
Cultural Resources	*No Effect* Explosives and non-explosives training on TAs C-87 and D-51 is conducted only in designated training areas that are highly disturbed and have very low potential to contain archaeological resources; there are no historic buildings/structures on either test area. Explosives training noise does not structurally damage any historic building or structure on Eglin AFB. In	*No Effect* Explosives and non-explosives training on TAs C-87 and D-51 would be conducted only in designated training areas that are highly disturbed and have very low potential to contain archaeological resources; there are no historic buildings/structures on either test area. Explosives training noise is not expected to structurally damage any historic building or structure on	*No Effect* Explosives and non-explosives training on TAs C-87 and D-51 would be conducted only in designated training areas that are highly disturbed and have very low potential to contain archaeological resources; there are no historic buildings/structures on either test area. Explosives training noise is not expected to structurally damage any historic building or structure on

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
	the event that cultural materials are inadvertently discovered during training activities, all requirements pertaining to inadvertent discoveries would be implemented. None of the Native American Tribes that were consulted dispute the determination that there are no properties of cultural or religious significance within the project area or which would likely be affected by the Proposed Action.	Eglin AFB. In the event that cultural materials are inadvertently discovered during training activities, all requirements pertaining to unexpected discoveries would be implemented. The overall potential for construction on either test area to impact cultural resources is low as the projects would be conducted in accordance with all Eglin AFB policies and procedures pertaining to protection of cultural resources. In the event that cultural materials are inadvertently discovered during construction, all requirements pertaining to inadvertent discoveries would be implemented. None of the Native American Tribes that were consulted dispute the determination that there are no properties of cultural or religious significance within the project area or which would likely be affected by the Proposed Action. SHPO has determined that the proposed infrastructure construction on TA D-51 and TA C-87 would have no adverse effect on historic or archaeological resources provided that the consultation requirements it has outlined are met. The Air Force accepts these consultation requirements and the 96 CEG/CEIA will determine the necessary measures to be implemented to avoid impacts to the nearest archaeological sites during construction on TA C-87.	Eglin AFB. In the event that cultural materials are inadvertently discovered during training activities, all requirements pertaining to unexpected discoveries would be implemented. The overall potential for construction on either test area to impact cultural resources is low as the projects would be conducted in accordance with all Eglin AFB policies and procedures pertaining to protection of cultural resources. In the event that cultural materials are inadvertently discovered during construction, all requirements pertaining to inadvertent discoveries would be implemented. None of the Native American Tribes that were consulted dispute the determination that there are no properties of cultural or religious significance within the project area or which would likely be affected by the Proposed Action. SHPO has determined that the proposed infrastructure construction on TA D-51 and TA C-87 would have no adverse effect on historic or archaeological resources provided that the consultation requirements it has outlined are met. The Air Force accepts these consultation requirements and the 96 CEG/CEIA will determine the necessary measures to be implemented to avoid impacts to the nearest archaeological sites during construction on TA C-87.
Safety	*Negligible – Not Significant* TAs C-87 and D-51 are closed to the public at all times. The inherent safety risk to military users is minimized by the range and explosives safety procedures that have been established. All ESQD arcs are contained within the boundaries of the test areas.	*Minor (Positive) – Not Significant* TAs C-87 and D-51 are closed to the public at all times. The inherent safety risk to military users is minimized by the range and explosives safety procedures that have been established. ESQD arcs would be established for all the proposed new explosives practical training sites. None of the proposed non-explosives training infrastructure would be constructed within existing or new ESQD arcs. The proposed new perimeter security fence on TA C-87 would encompass the existing and proposed new practical training sites and, therefore, would have a positive effect on safety and site security.	*Minor (Positive) – Not Significant* TAs C-87 and D-51 are closed to the public at all times. The inherent safety risk to military users is minimized by the range and explosives safety procedures that have been established. ESQD arcs would be established for all the proposed new explosives practical training sites. None of the proposed non-explosives training infrastructure would be constructed within existing or new ESQD arcs. The proposed new perimeter security fence on TA C-87 would encompass the existing and proposed new practical training sites and, therefore, would have a positive effect on safety and site security.

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
Land Use	*No Effect* TA C-87 and TA D-51 operations and infrastructure are compatible with the existing land-use classification of the test areas and have no effect on land use outside the test areas. .	*Moderate (Positive) – Not Significant* TA C-87 and TA D-51 operations and infrastructure would be compatible with the existing land-use classification of the test areas and would have no effect on land use outside the test areas. The proposed infrastructure projects would collectively correct current deficiencies in infrastructure, training capability, and security on TAs C-87 and D-51 and, therefore, would have an overall positive effect on the land use of the test areas.	*Moderate (Positive) – Not Significant* TA C-87 and TA D-51 operations and infrastructure would be compatible with the existing land-use classification of the test areas and would have no effect on land use outside the test areas. The proposed infrastructure projects would collectively correct current deficiencies in infrastructure, training capability, and security on TAs C-87 and D-51 and, therefore, would have an overall positive effect on the land use of the test areas.
Hazardous Materials/ Wastes and Solid Waste	*No Effect* Hazardous materials/wastes are managed on TAs C-87 and D-51 in coordination with the 96 CEG/CEIEC and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans.	*No Effect* Hazardous materials/wastes would be managed on TAs C-87 and D-51 in coordination with the 96 CEG/CEIEC and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans. None of the structures proposed to be demolished are expected to contain ACM or LBP. There are no ERP sites on or in the immediate vicinity of TA C-87 or TA D-51. Infrastructure construction on TA D-51 would have no effect on the MMRP sites along the perimeter of the test area; there are no MMRP sites on or in the immediate vicinity of TA C-87. Construction solid waste would be disposed of at an off-base landfill; some of the debris may be recycled/reused on Eglin AFB, as appropriate.	*No Effect* Hazardous materials/wastes would be managed on TAs C-87 and D-51 in coordination with the 96 CEG/CEIEC and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans. None of the structures proposed to be demolished are expected to contain ACM or LBP. There are no ERP sites on or in the immediate vicinity of TA C-87 or TA D-51. Infrastructure construction on TA D-51 would have no effect on the MMRP sites along the perimeter of the test area; there are no MMRP sites on or in the immediate vicinity of TA C-87. Construction solid waste would be disposed of at an off-base landfill; some of the debris may be recycled/reused on Eglin AFB, as appropriate.
Utilities	*Minor (Positive) – Not Significant* Utility systems on TAs C-87 and D-51 are able to support operations and infrastructure on the test areas. Operations on TA D-51 will benefit from the ongoing upgrades to the existing water and wastewater utility systems on the test area.	*Minor – Not Significant* Utility systems on TAs C-87 and D-51 would be able to support operations and infrastructure on the test areas. The new facilities proposed to be constructed would require connections to the utility lines/systems on the test areas; all new connecting utility lines for the facilities would be sized appropriately.	*Minor – Not Significant* Utility systems on TAs C-87 and D-51 would be able to support operations and infrastructure on the test areas. The new facilities proposed to be constructed would require connections to the utility lines/systems on the test areas; all new connecting utility lines for the facilities would be sized appropriately.
EJ Protection	No disproportionately high or adverse human health or environmental effects on minority or low-income	No disproportionately high or adverse human health or environmental effects on minority or low-income	No disproportionately high or adverse human health or environmental effects on minority or low-income

Resource	Alternative 1 (No Action Alternative)	Alternative 2	Alternative 3 (Preferred Alternative)
of Children	populations. No environmental health or safety risks to children.	populations. No environmental health or safety risks to children.	populations. No environmental health or safety risks to children.
Cumulative Impacts	When added to past, present, and reasonably foreseeable actions, the activities under Alternative 1 would not have significantly adverse cumulative impacts on any resource.	When added to past, present, and reasonably foreseeable actions, the activities under Alternative 2 would not have significantly adverse cumulative impacts on any resource.	When added to past, present, and reasonably foreseeable actions, the activities under Alternative 3 would not have significantly adverse cumulative impacts on any resource.

SECTION 4

Permits, Mitigation, and Management Actions

4.1 Permits

Per Florida's stormwater regulations, the proposed infrastructure construction projects that would create more than 4,000 ft^2 (0.09 acre) of impervious area would require an ERP Permit from FDEP. The Navy would be required to comply with FDEP regulations regarding post-condition stormwater runoff discharge rates for the increase in impervious area. In addition to the ERP Permit, the Navy would be required to obtain a FDEP NPDES stormwater construction permit and implement an associated SWPPP for the proposed construction projects that would disturb one or more acres of land. The BMPs and erosion/sedimentation controls that would be implemented for the projects would be discussed in the SWPPP.

4.2 Mitigation

Compensatory mitigation is not required for any activity within the scope of the Proposed Action addressed in this REA. Impact avoidance and minimization measures are addressed below.

4.3 Management Actions

The following management actions focus on avoidance and minimization of impacts to the resources analyzed in detail in this REA. They do not address all the standard procedures and measures required to be implemented for Eglin range operations, which include those specified in AFI 13-212, *Range Planning and Operations*, EAFBI 13-212, *Range Planning and Operations*, and other applicable range operation regulations and guidance documents. All personnel involved in training operations on TAs C-87 and D-51 are expected to implement these management actions.

- Conduct training operations only in areas designated/authorized for the operations.
- Drive vehicles only on existing roads and areas specifically designated/authorized for off-road vehicle use.
- Do not drive vehicles in wetlands, streams, or ponds. Cross streams only at established stream crossings.
- Adhere to all restrictions identified in EAFBI 13-212, *Range Planning and Operations*, pertaining to sensitive species.
- Conduct EOD detonations under favorable weather conditions to the extent practicable to minimize noise impacts on the public and sensitive species. Unfavorable weather conditions include high winds and temperature inversions. Coordinate with Eglin's Weather Office to identify weather conditions and plan training operations accordingly.
- Plan and conduct all training operations in accordance with the fire danger ratings and other wildfire minimization measures identified in EAFBI 13-212, *Range Planning and Operations*. Regularly remove vegetation and other potentially flammable debris from the areas where detonations are conducted to minimize potential wildfire starts.
- Plan and conduct training operations in coordination with the NAVSCOLEOD Explosives Safety Officer and Eglin Range Safety Office, and in compliance with all safety procedures specified in AFI 13-212, *Range Planning and Operations*, EAFBI 13-212, *Range Planning and Operations*, and other applicable range operation regulations and guidance documents.
- Manage hazardous materials/wastes in coordination with the 96 CEG/CEIEC and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans.

- Remove training-related debris from the test areas on a predetermined schedule in accordance with Air Force regulations. Do not use heavy equipment to remove debris from wetlands or surface water bodies.
- Digging or other intentional ground disturbing activity is prohibited anywhere on Eglin AFB without prior authorization from the 96 CEG/CEIEA.
- All proposed construction on Eglin AFB must be authorized by the 96 CEG/CEIEA. The permitting requirements identified in Section 4.1 must be satisfied for the proposed infrastructure construction projects.
- Listed species surveys must be conducted/coordinated by the 96 CEG/CEIEA at and in the vicinity of all proposed construction sites on Eglin AFB prior to any construction activity.
- In the event that cultural materials are inadvertently discovered during training operations or construction, cease all activities in the immediate vicinity of the inadvertent find and contact the 96 CEG/CEIEA.
- All consultation requirements outlined by SHPO in its letter dated October 21, 2014 will be followed. The CEG/CEIA will determine the necessary measures to be implemented to avoid impacts to the nearest archaeological sites during construction on TA C-87.

SECTION 5

List of Preparers

Name	Title	Primary Responsibility
Tunch Orsoy	Project Manager	Author/Project Management
Evan Cobb	Air Quality Specialist	Construction Emissions
Kathy Fitos	GIS Technician	GIS Mapping and Analysis
Robin Nagy	Word Processor	Document Editing
Brian Johnson	Graphics Specialist	Document Graphics

SECTION 6

List of Persons and Agencies Consulted

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- Robert F. Bendus, Florida Department of State, Tallahassee, Florida
- Mitch Bolin, 96TW/SEW, Eglin AFB, Florida
- LT Don Bowen, NAVFAC SE, NAVSCOLEOD, Eglin AFB, Florida
- Mike Burke, 96TW/SEW, Eglin AFB, Florida
- Joe Desormeaux, NAVSCOLEOD, Eglin AFB, Florida
- Jeff Fanto, 96 CEG/CENPP, Eglin AFB, Florida
- FDEP, Northwest District Office, Pensacola, Florida
- Michael Fitzsimmons, 96 TW/XPO, Eglin AFB, Florida
- Harry Fortenberry, 96 CEG/CEIEC, Eglin AFB, Florida
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- Eugene Jackson, NAVSCOLEOD, Eglin AFB, Florida
- Teresa Jordan, 96 CEG/CEIEA, Eglin AFB, Florida
- Kelly Knight, 96 CEG/CEIEA and Leidos, Eglin AFB, Florida
- Lauren P. Milligan, Florida State Clearinghouse, Tallahassee, Florida
- Northwest Florida Water Management District, Tallahassee, Florida
- Mindy Rogers, 96 CEG/CEIEA, Eglin AFB, Florida
- Chris Smith, 96 TW/XPO, Eglin AFB, Florida
- Mike Spaits, 96 TW/PA, Eglin AFB, Florida
- Tom Tolbert, 96 TW/XPO, Eglin AFB, Florida
- EODCM Brian Tschannen, NAVSCOLEOD, Eglin AFB, Florida

SECTION 7

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Appendix A
Federal Agency CZMA Consistency Determination

FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

This document provides the State of Florida with the U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 subpart C, for the Preferred Alternative (Alternative 3) of the draft 2014 Test Areas (TAs) C-87 and D-51 Range Environmental Assessment (REA), Eglin AFB, Florida. Federal consistency with the statutes implemented under the Florida Coastal Zone Management Program is addressed in the table below. Pursuant to 15 C.F.R. § 930.41, the Florida State Clearinghouse has 60 days from receipt of this document to concur with, or object to, this Consistency Determination, or to request an extension, in writing, under 15 C.F.R. § 930.41(b). Florida's concurrence will be presumed if Eglin AFB does not receive its response within 60 days from receipt of this document.

Florida Coastal Management Program Review

Statute	Federal Consistency	Scope
Chapter 161 *Beach and Shore Preservation*	The Proposed Action would not affect the state's management or preservation of beaches and shores.	This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.
Chapter 163, Part II *Growth Policy; County and Municipal Planning; Land Development Regulation*	The Proposed Action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 *State and Regional Planning*	The Proposed Action would be consistent with the state's statutes and regulations regarding state plans for water use, land development, and transportation.	Details state-level planning efforts. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 *Emergency Management*	The Proposed Action would not affect the state's vulnerability to natural disasters. The Proposed Action would not affect emergency response and evacuation procedures.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.
Chapter 253 *State Lands*	The Proposed Action does not involve the use of state lands and would not restrict public access to state lands. Therefore, the Proposed Action would be consistent with the state's administration of public lands.	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.
Chapter 258 *State Parks and Preserves*	The Proposed Action would not affect state parks or preserves.	Addresses administration and management of state parks and preserves.
Chapter 259 *Land Acquisition for Conservation or Recreation*	The Proposed Action would not affect the state's acquisition of environmentally endangered lands or outdoor recreation lands.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.
Chapter 260 *Florida Greenways and Trails Act*	The Proposed Action would not affect the Florida Greenways and Trails Program.	Established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes.

Statute	Federal Consistency	Scope
Chapter 267 *Historical Resources*	Potential impacts on cultural resources are analyzed in Section 3.6.2 of the REA. Based on the analysis conducted, the Proposed Action would have no effect on cultural resources. Therefore, the Proposed Action would be consistent with the management and preservation of the state's archaeological and historical resources.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 *Commercial Development and Capital Improvements*	The Proposed Action would not affect current or future business, trade, or tourism in the region.	Promotes and develops general business, trade, and tourism components of the state economy.
Chapter 334 *Transportation Administration*	The Proposed Action would not affect transportation.	Addresses the state's policy concerning transportation administration.
Chapter 339 *Transportation Finance and Planning*	The Proposed Action would not affect the finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system.
Chapter 373 *Water Resources*	Potential impacts on water resources are analyzed in Section 3.4.2 of the REA. Based on the analysis conducted, the Proposed Action would not adversely impact groundwater, surface waters, floodplains, or wetlands. Eglin's Compliance Office (96 CEG/CEIEC) would ensure that any applicable permitting requirements for the proposed construction projects would be satisfied in accordance with Florida Administrative Code. Therefore, the Proposed Action would be consistent with the state's statutes and regulations regarding the water resources of the state.	Addresses sustainable water management; the conservation of surface and groundwaters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians
Chapter 375 *Outdoor Recreation and Conservation Lands*	The Proposed Action would not affect recreational opportunities on state lands.	Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to meet the identified needs.
Chapter 376 *Pollutant Discharge Prevention and Removal*	Potential impacts from emissions released during TA C-87 and D-51 operations and construction are analyzed primarily in Sections 3.1.2, 3.3.2, 3.4.2, and 3.5.2 of the REA. Management of hazardous materials and wastes is discussed in Section 3.9 of the REA. Based on the analysis conducted, potential releases during operations and construction would not adversely impact humans, air quality, soils, water resources, or biological resources. Handling, storage, and disposal of hazardous materials/wastes during all activities under the Proposed Action would be conducted in coordination with Eglin's Compliance Office (96 CEG/CEIEC) and in accordance with all applicable environmental compliance regulations and Eglin environmental management plans. Therefore, the Proposed Action would be consistent with the state's statutes and regulations regarding the transfer, storage, or	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.

Statute	Federal Consistency	Scope
	transportation of pollutants.	
Chapter 377 *Energy Resources*	The Proposed Action would not affect oil and gas resources of the state.	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 379 *Fish and Wildlife Conservation*	Potential impacts on fish and wildlife, including sensitive species, are analyzed in Section 3.5.2 of the REA. Based on the analysis conducted, the Proposed Action would not adversely impact fish and wildlife, including sensitive species. Therefore, the Proposed Action would be consistent with the state's policies concerning the protection of fish and wildlife resources.	Addresses the management and protection of the state's wide diversity of fish and wildlife resources.
Chapter 380 *Land and Water Management*	The Proposed Action would not affect state management of land or water.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 *Public Health, General Provisions*	The Proposed Action would not affect the state's policy concerning the public health system.	Establishes public policy concerning the state's public health system.
Chapter 388 *Mosquito Control*	The Proposed Action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 *Environmental Control*	Potential impacts on air quality and water quality are analyzed in Section 3.1.2 and Section 3.4.2, respectively, of the REA. Based on the analysis conducted, the Proposed Action would not result in degradation of air quality or water quality. Handling, storage, and disposal of hazardous materials/wastes during all activities under the Proposed Action would be conducted in coordination with Eglin's Compliance Office (96 CEG/CEIEC) and in accordance with all applicable environmental compliance regulations and Eglin environmental management plans. Eglin's Compliance Office would ensure that any applicable permitting requirements for the proposed construction projects would be satisfied in accordance with Florida Administrative Code. Therefore, the Proposed Action would be consistent with the state's statutes and regulations regarding water quality, air quality, pollution control, solid waste management, and other environmental control efforts.	Establishes public policy concerning environmental control in the state.
Chapter 582 *Soil and Water Conservation*	Potential impacts on soils are analyzed in Section 3.3.2 of the REA. Based on the analysis conducted, the Proposed Action would not adversely impact soils or increase soil erosion potential. Therefore, the Proposed Action would be consistent with the state's statutes and regulations regarding soil and water conservation efforts.	Provides for the control and prevention of soil erosion.

Appendix B
IICEP Correspondence

CH2M HILL
4350 W. Cypress Street
Suite 600
Tampa, FL 33607
Tel 813.874.0777
Fax 813.874.3056

October 1, 2014

Lauren Milligan
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard
Mail Station 47
Tallahassee, Florida 32399-3000

Subject: Draft Environmental Assessment, Test Areas C-87 and D-51, Eglin AFB, Florida

Dear Ms. Milligan:

The U.S. Air Force proposes to authorize and implement projected Naval School Explosives Ordnance Disposal (NAVSCOLEOD) operations, including associated infrastructure construction, on Test Areas C-87 and D-51 at Eglin AFB, Florida. The draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) prepared for the Proposed Action are attached for your review and comment. The U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 subpart C, for the Preferred Alternative (Alternative 3) is provided as Appendix A of the draft EA.

Your comments are requested within 60 days of receipt of this letter. Please submit comments to Mike Spaits, 96th Test Wing Environmental Public Affairs, 101 W. D Ave., Rm. 238, Eglin AFB, Fla., 32542, or email: michael.spaits@us.af.mil. Tel: (850) 882-2836.

Sincerely,

CH2M HILL

Tunch Orsoy
Project Manager

Attachment:
Draft EA and FONSI (5 CDs)

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MARJORY STONEMAN DOUGLAS BUILDING
3900 COMMONWEALTH BOULEVARD
TALLAHASSEE, FLORIDA 32399-3000

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

November 18, 2014

Mr. Michael Spaits
Public Affairs Office, 96 TW/PA
Department of the Air Force
101 West D Avenue, Room 238
Eglin AFB, FL 32542-5499

RE: Department of the Air Force – Draft Range Environmental Assessment (REA), Test Areas C-87 and D-51, Eglin Air Force Base – Walton County, Florida.
SAI # FL201410027047C

Dear Mr. Spaits:

The Florida State Clearinghouse has coordinated a review of the referenced Draft REA under the following authorities: Presidential Executive Order 12372; § 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Department of Environmental Protection's (DEP) Northwest District Office staff has reviewed the proposal and notes that proposed construction activities may require the issuance of an environmental resource permit under Chapter 62-330, *Florida Administrative Code*, for any wetland impacts and onsite stormwater management. For further information and assistance with the state's permitting requirements, please contact Mr. Scott Casey at (850) 595-0574 or Scott.Casey@dep.state.fl.us.

The Florida Department of State (DOS) notes that the demolition of buildings 8852 and 8853 in Test Area D-51 was previously reviewed in 2013 and the structures determined ineligible for listing in the *National Register of Historic Places*. Building 8851 was also determined ineligible. DOS staff concurs that the proposed Test Area D-51 project will have no adverse effect on historic or archaeological properties. If prehistoric or historic artifacts are encountered at any time within the project area, however, all activities involving subsurface disturbance should cease and the applicant should contact the DOS Division of Historical Resources, Compliance Review Section for further instructions.

A review of the Florida Master Site File indicated that there are several archaeological sites located near the Test Area C-87 project area; archaeological site 8WL139 is adjacent to a proposed practical training site. The DOS has insufficient information to determine if this site is eligible for the National Register. Therefore, if any of the proposed development and

associated activities may impact these resources, further consultation with the DOS will be required. Furthermore, if buildings or structures 50 years old or older within the project areas will be altered or demolished as a result of the project activities, additional information must be provided to DOS to complete the project review. Please refer to the enclosed DOS letter for additional information.

Based on the information contained in the Draft REA and the enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the projects' continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activities' compliance with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during this and subsequent regulatory reviews. The state's final concurrence of the projects' consistency with the FCMP will be determined during the environmental permitting process, in accordance with Section 373.428, *Florida Statutes*.

Thank you for the opportunity to review the draft document. Should you have any questions regarding this letter, please don't hesitate to contact me at Lauren.Milligan@dep.state.fl.us or (850) 245-2170.

Yours sincerely,

Lauren P. Milligan

Lauren P. Milligan, Coordinator
Florida State Clearinghouse
Office of Intergovernmental Programs

Enclosures

cc: Ashley Livingston, DEP, Northwest District
Timothy Parsons, DOS

Project Information	
Project:	FL201410027047C
Comments Due:	11/12/2014
Letter Due:	12/01/2014
Description:	DEPARTMENT OF THE AIR FORCE - DRAFT RANGE ENVIRONMENTAL ASSESSMENT, TEST AREAS C-87 AND D-51, EGLIN AIR FORCE BASE - WALTON COUNTY, FLORIDA.
Keywords:	USAF - DREA, TEST AREAS C-87 AND D-51, EGLIN AFB - WALTON CO.
CFDA #:	12.200

Agency Comments:

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

The DEP's Northwest District Office staff has reviewed the proposal and notes that proposed construction activities may require the issuance of an environmental resource permit under Chapter 62-330, F.A.C., for any wetland impacts and onsite stormwater management. For further information and assistance with the state's permitting requirements, please contact Mr. Scott Casey at (850) 595-0574 or Scott.Casey@dep.state.fl.us.

STATE - FLORIDA DEPARTMENT OF STATE

The DOS notes that the demolition of buildings 8852 and 8853 in Test Area D-51 was previously reviewed in 2013 and the structures determined ineligible for listing in the National Register of Historic Places. Building 8851 was also determined ineligible. DOS staff concurs that the proposed Test Area D-51 project will have no adverse effect on historic or archaeological properties. If prehistoric or historic artifacts are encountered at any time within the project area, however, all activities involving subsurface disturbance should cease and the applicant should contact the DOS Division of Historical Resources, Compliance Review Section for further instructions. A review of the Florida Master Site File indicated that there are several archaeological sites located near the Test Area C-87 project area; archaeological site 8WL139 is adjacent to a proposed practical training site. The DOS has insufficient information to determine if this site is eligible for the National Register. Therefore, if any of the proposed development and associated activities may impact these resources, further consultation with the DOS will be required. Furthermore, if buildings or structures 50 years old or older within the project areas will be altered or demolished as a result of the project activities, additional information must be provided to DOS to complete the project review.

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

NO COMMENT BY TED HOEHN ON 10/14/14.

NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

No Comment/Consistent

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Florida State Clearinghouse
Agency Contact and Coordinator (SCH)
Attn: Lauren Milligan
3900 Commonwealth Blvd. MS-47
Tallahassee, Florida 32399-3000

October 21, 2014

RE: DHR Project File No.: 2014-4605/ Received by DHR: October 6, 2014
Application No.: SAI FL201410027047C
Project: *Draft Range EA, Test Areas C-87 and D-51, Eglin Air Force Base*
County: Walton

Dear Ms. Milligan,

Our office received and reviewed the project in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and the *National Environmental Policy Act of 1969*. The State Historic Preservation Officer is to advise and assist federal agencies when identifying historic properties (archaeological, architectural, and historical resources) listed, or eligible for listing, in the National Register of Historic Places, assessing the project's effects, and considering alternatives to avoid or minimize adverse effects.

Test Area D-51
Our office notes that the proposed demolition of buildings 8852 and 8853 in Test Area D-51 was previously reviewed in 2013 (attached DHR Project # 2013-01896). These structures have been evaluated and determined ineligible for listing on the *National Register of Historic Places*. Building 8851 has also been evaluated and determined ineligible (DHR Project # 2012-5577). Based on the information provided for the above mentioned project, this office concurs that the proposed project will have no adverse effect on historic or archaeological properties. If prehistoric or historic artifacts are encountered at any time within the project area, the permitted project should cease all activities involving disturbance in the immediate vicinity of such discoveries. The permittee should contact this office and the Eglin AFB Cultural Resource Manager, as well as the appropriate permitting agency.

Test Area C-87
A review of the Florida Master Site File (FMSF) indicated that there are several archaeological sites (8WL2376, 8WL2374, 8WL2375, 8WL139, 8WL1072, 8WL1071, 8WL1070 & 8WL1709), located near the proposed project area (see enclosed map). Archaeological site WL139 is adjacent to one of the proposed practical training sites. This office has insufficient information to determine if this site is eligible for the National Register. Therefore, if any of the proposed development and associated activities (i.e. staging, storage, and temporary access ways) may impact these resources, further consultation with

this office will be required. If the above conditions are met, it is the opinion of this agency that this undertaking will have no effect on historic properties.

Furthermore, if buildings or structures 50 years old or older are located within the proposed project tract that will be altered or demolished as a result of the proposed construction activities, additional information must be provided and this agency contacted to complete the project review. The additional information may include, but is not limited to: property record(s) indicating the year of construction, clear photographs of four exterior facades of the buildings or structures identified by street address, and aerial photographs confirming time of construction (if available). However, if the buildings or structures in the project area are less than 50 years old, or if the area for development is vacant, no additional information is required and no further review by this office is necessary for the referenced project.

For any questions concerning our comments, please contact Mary Berman, Historic Sites Specialist, by phone at 850.245.6333 or by electronic mail at Mary.Berman@dos.myflorida.com.

Sincerely,

Robert F. Bendus, Director
Division of Historical Resources
and State Historic Preservation Officer

Enclosure: USGS Map, DHR Letters 2013-1896 & 2012-5577


WL02376
WL02373
WL02374
WL02375
WL01709
WL01070
WL01071
WL01072
WL00139

Range Environmental Assessment
Test Areas C-87 and D-51
Eglin AFB, Florida

U.S. Air Force Responses to Comments on the Draft REA Received During Agency Review

The U.S. Air Force's responses to comments on the draft Range Environmental Assessment (REA) for Test Areas (TAs) C-87 and D-51 at Eglin Air Force Base (AFB), Florida, dated September 2014, received during the agency review period are provided below. The full versions of all received comments are included in Appendix B of the final REA.

Florida Department of Environmental Protection – Florida State Clearinghouse

Comments received: November 18, 2014 from Ms. Lauren P. Milligan

In a letter dated November 18, 2014, the Florida Department of Environmental Protection (FDEP) – Florida State Clearinghouse stated that "based on the information contained in the Draft REA and enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP)."

The Air Force acknowledges, as stated in the received letter, that "the state's continued concurrence will be based on the activities' compliance with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during this and subsequent regulatory reviews." The Air Force also acknowledges and accepts, as stated in the received letter, that "the state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process, in accordance with Section 373.428, *Florida Statutes*."

Florida Fish and Wildlife Conservation Commission

Comments received: November 18, 2014 from Mr. Ted Hoehn via the Florida State Clearinghouse

The Florida Fish and Wildlife Conservation Commission provided the following response: "No Comment by Ted Hoehn on 10/14/14."

Northwest Florida Water Management District

Comments received: November 18, 2014 via the Florida State Clearinghouse

The Northwest Florida Water Management District provided the following response: "No Comment/Consistent".

Florida Department of Environmental Protection - Northwest District Office

Comments received: November 18, 2014 via the Florida State Clearinghouse

In its comments, FDEP's Northwest District Office stated that the "proposed construction activities may require the issuance of an environmental resource permit under Chapter 62-330, F.A.C., for any wetland impacts and onsite stormwater management." The Air Force concurs with these comments and has addressed these permitting requirements in the Water Resources sections of the REA.

Florida Department of State

Comments received: November 18, 2014 from Mr. Robert F. Bendus via the Florida State Clearinghouse

In a letter dated October 21, 2014, the Florida Department of State, Division of Historical Resources and State Historic Preservation Officer concurred that the proposed activities on Test Area D-51 "will have no adverse effect on historic or archaeological properties." The Air Force concurs with the comments in the received letter regarding inadvertent discoveries and has addressed the procedures that will be followed in response to inadvertent discoveries in the Cultural Resources sections of the REA. In the received letter, the Florida Department of State indicated that there are several archaeological sites near Test Area C-87 and indicated that one of the sites is adjacent to one of the proposed practical training sites. The Florida Department of State stated that if any of the proposed developments and associated activities (i.e., staging, storage, and temporary access ways) may impact these resources, further consultation with its office will be required. The Air Force accepts these consultation requirements and will take the necessary precautions to avoid impacts to the identified archaeological sites as determined appropriate by the 96 CEG/CEIEA. The Florida Department of State concluded that "if the above conditions are met, it is the opinion of this agency that this undertaking will have no effect on historic properties." Lastly, the Florida Department of State outlined the consultation and information that would be required if any buildings or structures 50 years old or older would be altered or demolished by the proposed construction activities. The Air Force accepts these consultation requirements and does not propose to alter or demolish any building or structure 50 years old or older as part of the proposed activities addressed in the REA.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 96TH TEST WING (AFMC)
EGLIN AIR FORCE BASE FLORIDA

16 March 2015

MEMO FOR RECORD

SUBJECT: Tribal Consultations for Range Environmental Assessment (REA) Test Areas C-87 and D-51 Eglin Air Force Base, Florida

1. We have consulted with five federally recognized tribes, the Miccosukee Tribe of Indians of Florida, the Seminole tribe of Florida, the Poarch Band of Creek Indians of Alabama, the Muscogee (Creek) Nation of Oklahoma, and the Thlopthlocco Tribal Town of the Creek (Muscogee) Nation of Oklahoma associated with the area of the REA Test Areas C-87 and D-51 project.

2. They do not dispute the determination there are no properties of cultural or religious significance within the project area or which would likely be affected by the REA Test Areas C-87 and D-51 project.

//signed//
MELINDA A. ROGERS
96 CEG/CEIEA

Appendix C
Public Involvement

AP

Volcanic gases and ash billow Tuesday afternoon from the peak crater of Mount Ontake in central Japan.

Luck, instinct determined fates of volcano hikers

TOKYO (AP) — Huge boulders falling from the sky. Billowing gray smoke that cast total darkness over the mountain. Volcanic ash piling on the ground and fumes filling the air.

Some survivors of the eruption of Mount Ontake made a split-second decision to hide behind big rocks or escaped into lodges that dot the mountain's slopes. Outdoors, other hikers fell, hit by rocks or possibly suffocated by gases, and quickly buried in ash. At least 36 people were killed in Saturday's surprise eruption.

For survivors such as mountain guide Sayuri Ogawa, it was a near-death experience. The experience she recalled on Tuesday and the accounts of others suggest that luck and instinct made the difference between life and death for the hikers who were in harm's way.

Despite its impressive plume, the eruption was not a major one with lava flow. Yet, it proved deadly, because so many people were at the summit on a perfect day to enjoy hiking and the autumn leaves.

The eruption caught hikers by surprise. Seismologists had detected signs of increased seismic activity at Mount Ontake, one of Japan's 110 active volcanos, but nothing signaled a fatal eruption.

One moment, the hikers were enjoying the panoramic view at 10,000 feet above sea level. Some of them were taking off their shoes and resting their feet after the morning climb. Others were cooking ramen noodles on portable stoves. The next moment, they were scrambling for shelter and running for their lives.

Ogawa, 43, was near the summit by herself, rehearsing an upcoming tour she was to escort. She was just starting the "bowl tour" around the crater when she heard an explosion, something like the noise of big fireworks, right above her head.

Some people were taking pictures of the plume rising, but she started running down. She saw big rocks shoot up high into the sky, their shape visible. Already down a bit from the summit, there was no building in sight, so she found a big rock to protect her from falling rocks. In the next moment, she smelled the powerful odor of sulfur.

"I couldn't breathe, and rocks kept falling down like rain," she said. "I thought I was going to die."

What must have been a few minutes seemed like forever. Then she felt a cool breeze in her face and could breathe. She moved to a place with better protection, ducking between two big rock formations where only part of her right leg was exposed. Smoke repeatedly blacked out any sights, and falling rocks smashed against the formation where she was hiding, some of them bruising her leg and hip. In the dark, rocks as big as a minivan, or a refrigerator, flew past her. The ash had accumulated to knee-high by the time she stood and ran to a lodge, to inform authorities of a woman with a leg injury she saw along the way.

Colorado school protests roil swing state politics

DENVER (AP) — The protests over a Colorado school district's proposal to promote patriotism and de-emphasize civil disobedience in American history classes have found their way into the state's marquee midterm election races, injecting a volatile issue two weeks before early voting ballots land in mailboxes across the state.

As hundreds of students in Jefferson County walk out of class, Democrats running for governor and Senate are decrying the proposed changes, while some Republicans question the role of the teachers union, which is in its own battle over merit pay.

Statewide contests in Colorado are won and lost in the vast Denver suburb, and partisans on each side hope the heightening passions rebound to help their team in November. Colorado is the site of a top-tier gubernatorial contest and a neck-and-neck Senate race that could help determine which party controls that chamber.

"This is an issue that seems closer to people's lives than what they are seeing in the political ads on TV, and it could absolutely impact races up and down the ballot," said Craig Hughes, a Democratic consultant. Democrats, facing a tough election with President Obama's low approval ratings, are particularly hopeful the controversy shakes up state politics.

The demonstrations broke out more than a week ago. A conservative bloc of three new members was elected to the school board last year, and they instantly became the majority, pushing out the district's veteran superintendent and clashing with its teachers union and parent-teacher association.

At its Sept. 19 meeting, the board proposed creating a committee to review texts and course plans, starting with Advanced Placement history, to make sure materials "promote citizenship, patriotism, essentials and benefits of the free-market system, respect for authority and respect for individual rights" and don't "encourage or condone civil disorder, social strife or disregard of the law."

The ensuing walkouts brought criticism from some candidates, including Republican gubernatorial candidate Bob Beauprez, a former congressman who represented Jefferson County. He said the board is within its rights to consider the adjustments.

"They have every right to discuss curriculum," Beauprez said. "What this is really about is the continuing tiff between the teachers union and the elected majority."

His opponent, Democratic Gov. John Hickenlooper, criticized the proposed curriculum changes.

"Parents do not want a narrow curriculum or limited educational experience for their children," said Hickenlooper, father of a 12-year-old. "The question is: Do you want your kids to learn about Dr. Martin Luther King Jr. and the Boston Tea Party? Personally, my answer is, Yes."

The students' passion brought the praise of Democratic Sen. Mark Udall, who called them inspiring, and said he hoped the school board would listen.

PUBLIC NOTIFICATION

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Your comments on this Draft EA are requested. Letters and other written or oral comments provided will be addressed and may be published in the Final EA. Any personal information provided, including private addresses, will be used only to identify your desire to make a statement during the public comment period or to compile a mailing list to fulfill requests for copies of the Final EA or associated documents. However, only the names and respective comments of respondent individuals will be disclosed: personal home addresses and phone numbers will not be published in the Final EA.

The Draft Environmental Assessment and Draft Finding of No Significant Impact are available on the web at www.eglin.af.mil/environmentalassessments.asp from October 1 until October 30, 2014. All area libraries have computers available to the general public and librarians who can provide assistance linking to the document. Hard copies of the document may be available for a limited time by contacting: Mike Spaits, 96th Test Wing Environmental Public Affairs, 101 W. D Ave., Rm. 238, Eglin AFB, Fla., 32542, or email: michael.spaits@us.af.mil. Tel: (850) 882-2836.

The documents will be available on the web from October 1 until October 30, 2014. For more information or to comment on the Proposed Action, contact Mike Spaits, at the contact listed above. Comments must be received by November 4, 2014.

2105674

NORTHWEST FLORIDA

Daily News

Published Daily
Fort Walton Beach, Florida
Distributed in Okaloosa, Santa Rosa & Walton Counties

State of Florida, County of Okaloosa

Before the undersigned authorized personally appeared Rebecca Barney

who on oath says that (s)he is Legal Advertising Clerk

of the Northwest Florida Daily News,

a daily newspaper published at Fort Walton Beach, in Okaloosa County, Florida;
that the attached copy of advertisement, being a Legal Display

in the matter of Notice # 2105694

Public Notification

in the Okaloosa County Court, was published in
10-1-14 said newspaper in the issues of

Affiant further says that the said Northwest Florida Daily News is a newspaper published at Fort Walton Beach, in said Okaloosa County, Florida, and that the said newspaper has heretofore been continuously published in said Okaloosa County, Florida, each day, and has been entered as second class mail matter at the post office in Fort Walton Beach, in said Okaloosa County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that (s)he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

STATE OF FLORIDA
COUNTY OF OKALOOSA

Subscribed and sworn to (or affirmed) before me this 10-28-14
(Date)

by [signature], ~~who is/are~~ personally known to me or

has/have produced Personally Known as identification.
(Type of identification)

[signature]
(Signature) Notary Public, Commission No. _____

(Name of Notary typed, printed or stamped)

THE INQUIRING PHOTOGRAPHER —by Mike Griffith

What do you think about the U.S. air campaign against terrorists in Iraq and Syria?

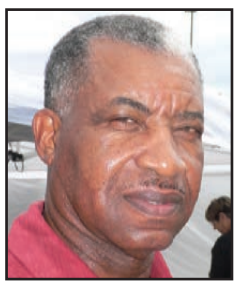
Location: Oktoberfest in Bluewater Bay

"It should have started a long time ago."

Bruce Kennedy, 57, Bluewater Bay, landscaper

"I think what the terrorists are doing is terrible. We need to do something to stop it."

Babs Gardecki, Rocky Bayou, housewife and volunteer



"I think it's the right thing to do."

Ornee Patterson, 65, Montgomery, Alabama, laboratory technician

"As of now, I back the US strategy, and I expect more to be revealed about it in the future."

Mike Flanigan, 54, Atlanta, Georgia, radar monitor

"I think it will just spark more rioting and warfare. I don't agree with it."

Megan Bartlett, 26, Choctaw Beach, stay-home mom

"I think it's a good way for us to stay in control of our freedom."

Jojo Yabui, 27, Niceville, child care worker

What should we ask next week? Email your suggested question to: info@baybeacon.com
Include "Suggested IP question" in the "subject" field.

BOSS

From page A-1

Mid-Bay Bridge Authority Executive Director Jim Vest, who retired Tuesday, performed his final official public duty Sept. 23 at a naming ceremony for the new Mid-Bay Bridge Connector. Vest is fourth from right, with past and present bridge officials and Walter and Jerry Spence, sons of Walter Francis Spence, for whom the highway was named.

expansion, construction of Danny Wuerffel Way from the south end of the bridge to U.S. 98 in Destin, four-laning State Road 20 near the connector ramps, and improvements to Range Road.

Fornell described Vest, 69, as "very dynamic" and said he's provided "excellent technical and strong management support for the whole process, including the financing."

Vest earned his bachelor's and master's civil engineering degrees from the University of Arkansas. He was an engineer in Little Rock at the beginning of his career, followed by two years doing military construction for the Navy Seabees. His career continued with Peter Kiewit Sons, an international heavy-construction firm, on various highway, bridge, dam and powerhouse projects.

Vest himself, who attended his last official function Sept. 23, a highway-naming ceremony honoring the late Francis Spence, an early proponent of the bridge, was characteristically tight-lipped about his 23-year tenure.

"The Mid-Bay Bridge Authority has provided major contributions to the local transportation system with the construction of the bridge, connector and other infrastructure improvements," Vest said. "I am proud of the authority's accomplishments that have made a significant impact to this area and I am grateful to the authority for allowing me to be a part of that for 23 years."

The Miramar Beach resident's retirement took effect Sept. 30.

Bluewater Bay developer Raimund Herden said Vest "was very engaged from the very first day and he believed it could be done."

Judy Byrne Riley, president of the Niceville Valparaiso Chamber of Commerce when the toll span was completed in 1993, was also an officer of Valparaiso Realty Company, which owned commercial property in Niceville and Destin. "For us, the opening of the Mid-Bay Bridge was a great boon and allowed us to bring business to Destin and Niceville," said Riley.

She describes Vest as "very effective" and said he was very good at keeping all of the parts of the puzzle such as the "bonds, cost, expenses, employees, communities and bridge authority" together for completion of the project.

Riley also said Vest has been on top of maintenance of the bridge which was shut down briefly in 2000 to deal with corrosion on support cables. She said, "I think he's done a very good job."

Fornell said the benefits to the community of the bridge and connector are that it allows an alternate route through the area, easier evacuation in the event of storms, provides a buffer for the Eglin range from the rest of the world and also provides an economic benefit for Eglin and the MBBA. "It's wedded us all very closely together and served the public very well," he added.

Herden said the bridge has brought Bluewater closer to the beaches, shopping and restaurants of Destin.

Riley said the bridge has brought the communities of Niceville and Destin together not only for commercial purposes but also for regional efforts.

Jim Liufau, who was president of the Destin Chamber of Commerce when the bridge opened in 1993, said the span and connector complete a highway link from the north end of the county to the south.

Liufau added, "Back then, too, folks in Destin, Niceville had preconceived notions of folks in Destin and Niceville and we found out we're all pretty similar." He said the business community in Destin greatly supported the completion of the bridge.

Liufau adds, "When you think of the Mid-Bay Bridge, you think of Jim Vest. I think he served the bridge authority and the community well."

Last month the bridge authority offered to hire Claude Van Fuller, Jr. of Columbia, S.C., to succeed Vest as executive director, beginning Oct. 13. Fuller was deputy secretary for engineering for the South Carolina Department of Transportation.

HIKE

From page A-1

"It was set at $834,977," the chief replied, "and due to less carry over it was reduced and set at $799,977, with the millage remaining the same."

Highlights of the budget include $451,500 for salaries and wages, $68,539 for life and health insurance, $29,500 for payroll taxes, and $100,000 in operational reserve funds.

The budget also includes $21,000 for operational expenditures, $12,200 for insurance on property and vehicles, and $15,589 for building/utilities-services and fuel.

It also includes $12,300 for equipment, and $13,486 for repair and maintenance. Other expenditures are expected to include $10,500 for retirement contributions, $15,776 for workers compensation insurance, $15,000 for accounting and auditing expenses, $7,000 for communications, $1,400 for advertising, $14,180 for a tax collector's fee, and $12,007 for a property appraiser's fee.

The Bay Beacon
& Beacon Express
1181 E. John Sims Parkway, Niceville, Florida 32578
(850) 678-1080 • Fax 1-888-520-9323 • info@baybeacon.com

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All submissions for publication become property of The Bay Beacon.
Niceville's Newspaper

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Response to Document #RCS 13-547

To whom it may concern:

I have read the subject document and am providing the following response:

The document attempts to assess the impact of operations associated with C-87 and D-51. The operations associated with range D-51 are particularly important, specifically the aspect of noise.

I am responding in that our residence is in Blue Pine Village, just west of the D-51 range. As a homeowner's association officer, we field calls citing noise arising from ordnance expenditures on a regular basis. Frequent, low volume noise is to be expected, being in the vicinity of an Explosives Ordnance Disposal (EOD) facility however we do receive large, stimulus from time-to-time that rattle windows, cause drywall to separate, and otherwise startle residents. I myself have experienced these events as there is sufficient energy to cause pictures to fall from the wall and knick-knacks to be toppled from shelves. I have received calls from residents regarding agitated (and occasionally incontinent) animals, as well as folks being wakened from sleep repeatedly.

I disagree with the methodology of averaging the acoustic energy over time in that it minimizes the severe impulses and renders the disproportionate (high frequency) days as appearing more benign. The hearing issue associated with the 140 dB threshold is not a critical metric when factoring acoustic impact as the lack of threshold is readily apparent. The 115 dB metric is likewise not a clear metric of value in that there are clearly residents that are annoyed assuming this threshold is being maintained. Again, this annoyance (using the words from the document) does not refer to a majority of the noise, but those associated with infrequent and irregular large blast stimuli emanating from the range.

Additionally the concept of (in essence) doubling the rate of function while using the flawed approach of averaging the stimulus provides a false, benign result. Additionally the causal factors cited for the increased activity (options #2, and #3) are unclear, indeterminate, and hence interpretive. The findings of the document "Minor Impact, Not Significant" are wholly inaccurate in that they are derived from a flawed and incomplete process.

I believe that further analysis/investigation will provide the following:

1. Analysis/investigation involvement with person-to-person dialogue possesses value not currently exploited. This can take the form of participation at homeowner's association meetings, etc. Sterile analysis does nothing to actually determine the public perception and attitude relative to impact.
2. If it can be determined that the range site D-51 is indeed an inconsequential contributor to noise (assuming it emanates from a different range), then both public relations as well as the reputation of the EOD school are maintained by further scrutiny.
3. Establish a clear, concise, and human-contributed evaluation that possesses validation of the model being utilized.

The range document (cited in this response) provided content that was not self-evident, nor were references to locations easily understood to anyone other than those with a daily working knowledge of the ranges and surroundings. Lack of any real time references exacerbated a perception that the document vetting process mandated the opportunity for public feedback but it appears that public response itself is discouraged via unfamiliarity. Simply stated, it (the document) is not easily understood by the layman, and it appears that it was rendered in a fashion to prevent discovery and hence inhibit public feedback (and perhaps criticism) to it.

In summary, the document appears to be based upon analysis and modeling only. Analysis/modeling is insufficient and inadequate to address actual circumstances as well as assess public perception of range operations impact. Furthermore the approach of averaging the stimulus only serves to reduce the effect of individual stimulus with the only two purposes. The first purpose is to trivialize the level posed by individual events by averaging them with times of inactivity. This line of reasoning would "normalize" discrete events as the averaged data (result) is lower overall. The second purpose is to negate the perception of grouped effects. This would allow multiple or higher rate of activity on any given day or morning while averaging data renders the effect of an overall lower rate/time (appears more benign). Additionally the document is deficient in that it fails to account for physical feedback regarding a subject that impacts individuals and is human-centric.

Matthew Bridge (Vice President, Blue Pine Home Owner's Association),

Note: The Air Force has purposefully removed Mr. Bridge's personal address and phone number from this page.

Range Environmental Assessment
Test Areas C-87 and D-51
Eglin AFB, Florida

U.S. Air Force Responses to Comments on the Draft EA Received During Public Review

The U.S. Air Force's responses to comments on the draft Range Environmental Assessment (REA) for Test Areas C-87 and D-51, dated September 2014, received during the public review period are provided below. The original versions of all received comments, excluding personal information, are provided in Appendix C of the final REA.

Responses to Public Comments ***Public Review of Draft Range Environmental Assessment for Test Areas C-87 and D-51, dated September 2014***	
Comment	**Response**
Received from Mr. Matt Bridge on November 3, 2014: The document attempts to assess the impact of operations associated with C-87 and D-51. The operations associated with range D-51 are particularly important, specifically the aspect of noise. I am responding in that our residence is in Blue Pine Village, just west of the D-51 range. As a homeowner's association officer, we field calls citing noise arising from ordnance expenditures on a regular basis. Frequent, low volume noise is to be expected, being in the vicinity of an Explosives Ordnance Disposal (EOD) facility however we do receive large, stimulus from time-to-time that rattle windows, cause drywall to separate, and otherwise startle residents. I myself have experienced these events as there is sufficient energy to cause pictures to fall from the wall and knick-knacks to be toppled from shelves. I have received calls from residents regarding agitated (and occasionally incontinent) animals, as well as folks being wakened from sleep repeatedly. I disagree with the methodology of averaging the acoustic energy over time in that it minimizes the severe impulses and renders the disproportionate (high frequency) days as appearing more benign. The hearing issue associated with the 140 dB threshold is not a critical metric when factoring acoustic impact as the lack of threshold is readily apparent. The 115 dB metric is likewise not a clear metric of value in that there are clearly residents that are annoyed assuming this threshold is being maintained. Again, this	The Air Force acknowledges that such noise disturbance may at times be experienced in Blue Pine Village; however, it is unlikely that such noise events are associated with the detonations that are conducted on Test Area D-51. The maximum amount of Net Explosive Weight (NEW) detonated on Test Area D-51 is 1.5 lbs NEW, which is very small relative to the NEW of ordnance expended on other ranges on Eglin AFB. Based on the noise analysis conducted in the REA, the associated 140 dBP noise levels are contained within the test area itself and the 115 dBP noise levels are contained well within the boundary of Eglin AFB, except for perhaps under certain unfavorable weather conditions, which are avoided to the extent practicable. The more likely sources of the noise events experienced in Blue Pine Village are the much larger explosions and detonations conducted on the Test Area C-52 Complex, which is located

Comment	Response
annoyance (using the words from the document) does not refer to a majority of the noise, but those associated with infrequent and irregular large blast stimuli emanating from the range. Additionally the concept of (in essence) doubling the rate of function while using the flawed approach of averaging the stimulus provides a false, benign result. Additionally the causal factors cited for the increased activity (options #2, and #3) are unclear, indeterminate, and hence interpretive. The findings of the document "Minor Impact, Not Significant" are wholly inaccurate in that they are derived from a flawed and incomplete process. I believe that further analysis/investigation will provide the following: 1. Analysis/investigation involvement with person-to-person dialogue possesses value not currently exploited. This can take the form of participation at homeowner's association meetings, etc. Sterile analysis does nothing to actually determine the public perception and attitude relative to impact. 2. If it can be determined that the range site D-51 is indeed an inconsequential contributor to noise (assuming it emanates from a different range), then both public relations as well as the reputation of the EOD school are maintained by further scrutiny. 3. Establish a clear, concise, and human-contributed evaluation that possesses validation of the model being utilized. The range document (cited in this response) provided content that was not self-evident, nor were references to locations easily understood to anyone other than those with a daily working knowledge of the ranges and surroundings. Lack of any real time references exacerbated a perception that the document vetting process mandated the opportunity for public feedback but it appears that public response itself is discouraged via unfamiliarity. Simply stated, it (the document) is not easily understood by the layman, and it appears that it was rendered in a fashion to prevent discovery and hence inhibit public feedback (and perhaps criticism) to it. In summary, the document appears to be based upon analysis and modeling only. Analysis/modeling is insufficient and inadequate to address actual circumstances as well as assess	northeast of Test Area D-51. The recently updated REA for the Test Area C-52 Complex, finalized in October 2014, addresses the noise generated by testing/training operations on that range. The Air Force has analyzed both the greatest potential single-event noise impact and the potential continuous (time-averaged) noise impact on the public in the REA. The continuous (time-averaged) impact calculations are based on a 24-hour period of maximum detonation activity. They do not include days when detonations are not conducted and, therefore, do no minimize "high frequency" days. Noise levels of 140 dBP and 115 dBP are generally used as the single event noise thresholds for human hearing protection and public annoyance, respectively. These metrics are widely accepted by U.S government agencies and the scientific community. The Air Force acknowledges that certain people may still experience some level of annoyance by noise levels less than the threshold of 115 dBP. The threshold for significance with respect to a Finding of No Significant Impact takes into consideration annoyance as well as potential hearing loss. Based on the noise analysis conducted in the REA, the noise levels expected to be experienced by the public would be minor and well below the threshold for significance based on these factors. The Air Force has solicited public feedback on the Proposed Action through the NEPA process. The public notice that announced the 30-day

Responses to Public Comments *Public Review of Draft Range Environmental Assessment for Test Areas C-87 and D-51, dated September 2014*	
Comment	**Response**
public perception of range operations impact. Furthermore the approach of averaging the stimulus only serves to reduce the effect of individual stimulus with the only two purposes. The first purpose is to trivialize the level posed by individual events by averaging them with times of inactivity. This line of reasoning would "normalize" discrete events as the averaged data (result) is lower overall. The second purpose is to negate the perception of grouped effects. This would allow multiple or higher rate of activity on any given day or morning while averaging data renders the effect of an overall lower rate/time (appears more benign). Additionally the document is deficient in that it fails to account for physical feedback regarding a subject that impacts individuals and is human-centric.	public review period for the Proposed Action was published in the two primary newspapers of the area. The public notices were purposefully published as display ads in the prominent sections of the newspapers so they would be more visually prominent to readers. The Air Force has carefully considered all received comments and has addressed the comments in the Final EA.

Appendix D
ACAM Report and Summarized Data Inputs

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:
Base: EGLIN AFB
County(s): Walton
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Range Environmental Assessment, Test Areas C-87 & D-51: Alternative 2

c. Project Number/s (if applicable): Contract No. W91278-12-D-0026, Task Order 0011, RCS 13-547

d. Projected Action Start Date: 1 / 2015

e. Action Description:

Alternative 2 is foreseeable future TA C-87 and D-51 activity, which includes NAVSCOLEOD operations and infrastructure construction expected to occur from FY 2014 (baseline activity) to FY 2020.

f. Point of Contact:

Name: Evan Cobb
Title: N/A
Organization: CH2M HILL
Email: evan.cobb@ch2m.com
Phone Number: (425) 233-3157

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions.

"Air Quality Indicators" were used to provide an indication of the significance of potential impacts to air quality. These air quality indicators are EPA General Conformity Rule (GCR) thresholds (de minimis levels) that are applied out of context to their intended use. Therefore, these indicators do not trigger a regulatory requirement; however, they provide a warning that the action is potentially significant. It is important to note that these indicators only provide a clue to the potential impacts to air quality.

Given the GCR de minimis threshold values are the maximum net change an action can acceptably emit in non-attainment and maintenance areas, these threshold values would also conservatively indicate an actions emissions within an attainment would also be acceptable. An air quality indicator value of 100 tons/yr is used based on the GCR de minimis threshold for the least severe non-attainment classification for all criteria pollutants (see 40 CFR 93.153). The threshold Therefore, the worst-case year emissions were compared against the GCR Indicator and are summarized below.

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Analysis Summary:

2015

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	4.991	100	
NOx	22.871	100	
CO	16.234	100	
SOx	0.034	100	
PM 10	50.808	100	
PM 2.5	1.200	100	
Pb	0.000	100	
NH3	0.032	100	

2016 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	100	
NOx	0.000	100	
CO	0.000	100	
SOx	0.000	100	
PM 10	0.000	100	
PM 2.5	0.000	100	
Pb	0.000	100	
NH3	0.000	100	

None of estimated emissions associated with this action are above the GCR thresholds, indicating no significant impact to air quality; therefore, no further air assessment is needed.

_____ _____

Evan Cobb, N/A DATE

Summary of Construction Data Inputs for ACAM

Test Area C-87

Perimeter Fencing

- Details: Chain link w/ barbed wire, 7 ft high
- Grading Area: 20,100 ft long x 20 ft wide cleared area = 402,000 sq ft grading area (9.2 acres)
- Construction Duration: 10 month total (3 months grading, 7 months construction)

IED Practical Training Sites

- Details: Training sites w/ paving, grading, and small structures
- Grading Area: 4 sites @ 1.62 acres/site = 283,140 sq ft (6.5 acres)
- Paving: Site is assumed to be 50% paved (3.3 acres)
- Buildings: Four 1,000 sq ft structures total (1 per site); 15 ft tall structure
- Architectural Coating (painting): Assumed 4,000 sq ft
- Construction Duration: 6 months total (2 months grading/paving , 4 months construction and painting)

Tactical Post Blast Cource

- Details: Multiple buildings with paving and grading
- Grading: 20,344 sq ft total (15,392 sq ft + 1,076 sq ft + 3,876 sq ft)
- Paving: Training sites assumed to be 50% paved (1,938 sq ft)
- Buildings: 22,468 sq ft total; 15 ft tall structure
    - Instruction Facility @ 15,392 sq ft
    - Vehicle Storage @ 1,076 sq ft
    - 6 training sites @ 1,000 sq ft/site (6,000 sq ft)
- Construction Duration: 12 months (4 months grading, 8 months construction, paving, and painting)

Test Area D-51

WMD Practical Training Sites

- Details: 9 training sites (blast pits and command post/parking area)
    - 4,359 sq ft/site for blast pit
    - 14,994 sq ft/site for command post and parking (10,000 sq ft parking + 4,994 sq ft command post)
- Grading Area: 134,946 sq ft (90,000 sq ft parking + 44,946 sq ft command post)
- Excavation: 39,231 sq ft (9 sites @ 4,359 explosive blast pit sq ft/site)
- Buildings: 53,946 sq ft total; 15 ft tall structure
    - Nine Command Posts @ 44,946 sq ft total (9 sites @ 4,994 sq ft command post/site)
    - Nine mock structures @ 9,000 sq ft (1,000 sq ft/site)
- Paving: 90,000 sq ft (9 sites @ 10,000 sq ft parking/site)
- Architectural Coating (painting): Assumed 9,000 sq ft
- Construction Duration: 1 year (3 months grading/excavating/paving, 9 months construction and painting)

Replacement building (steel shop/sign engraving and bus/vehicle/equipment dispatch)

- Details: New replacement structures
- Building: 4,500 sq ft total; 15 ft tall structure
- Architectural Coating (painting): Assumed 4,500 sq ft
- Duration: 6 months total (2 months grading/paving, 4 months construction)

Demolition of 8851, 8852, 8853, and storage shed

- Details: demolition of outdated structures
- Buildings: 4,655 sq ft demolition area
    - Bldg 8851 (240 sq ft); 15 ft tall structure
    - Bldg 8852 and 8853 (3,615 sq ft total); 15 ft tall structure
    - Storage Shed (800 sq ft); 15 ft tall structure
- Demolition Duration: 6 months

Auditorium

- Details: New auditorium for staff functions
- Buildings: 10,080 sq ft; 15 ft structure
- Grading: 14,000 sq ft in parking (already paved)
- Architectural Coating (painting): Assumed 10,800 sq ft
- Construction Duration: 6 months (2 months grading, 4 months construction and painting)

PT Field

- Details: includes a 1-mile track and various exercise areas and obstacles
- Grading: 544,500 sq ft (12.5 acres)
    - Fill dirt from on-site used on top of graded area, no excavation required
- Construction Duration: 4 months grading

Field House

- Details: facility that includes showers and toilets for men and women
- Buildings: 13,520 sq ft; 15 ft tall structure
- Grading: 13,520 sq ft
- Architectural Coating (painting): Assumed 13,520 sq ft
- Construction Duration: 9 months (3 months grading, 6 months construction and painting)

Boneyard Renovation

- Details: Storage structures and road improvements
- Buildings: 30,800 convered storage structures; 15 ft tall structure
- Paving: 131,012 sq ft
    - 112,452 sq ft of asphalt and/or gravel
    - 2,200 sq ft concrete dumpster pad
    - 8,136 sq ft new access road
- Grading: 143,252 sq ft total
    - 30,800 sq ft storage structures
    - 112,452 sq ft of asphalt and/or gravel
    - Concrete dumpster pad and access road do not require grading
- Architectural Coating (painting): Assumed 30,800 sq ft
- Construction Duration: 9 months (3 months grading/paving, 6 months construction and painting)